MISCELLANEOUS PAPER M-76-6

COMPARISON OF THE RIDE AND MOBILITY CHARACTERISTICS OF SELECTED COMMERCIAL 1/4- TO 3/4-TON VEHICLES AND THE MILITARY M151A2 UTILITY TRUCK

by

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Final Report

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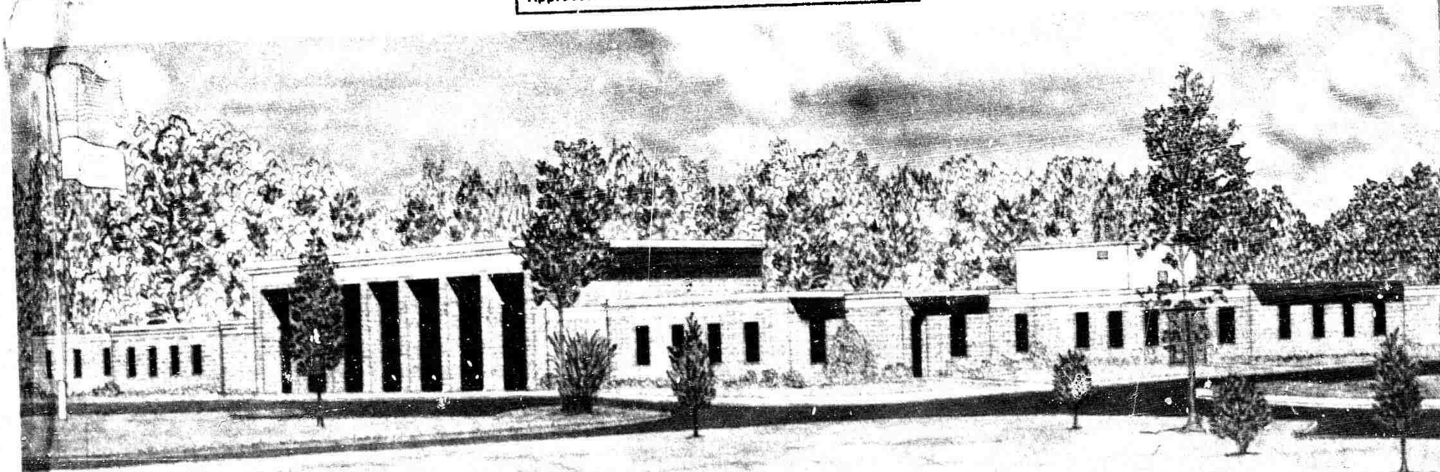

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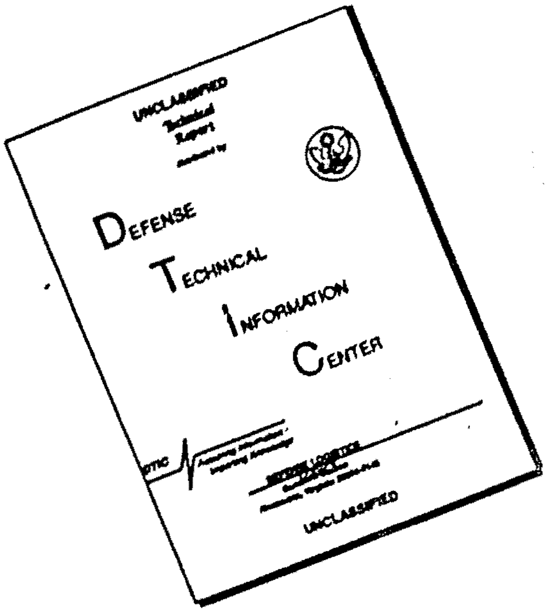

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A study was conducted to (a) obtain experimental ride, shock, and speed data for 10 commercial 1/4- to 3/4-ton vehicles with 800-lb payloads and with rated payloads; (b) use the experimental data to develop ride and shock relations for use in the Army Mobility Model (AMM); (c) compare the relative ride performances of the candidate commercial vehicles with that of the military M151A2 utility truck; and (d) use the experimental ride and shock data and the measured traverse speed data to validate the AMM in relation to these vehicles.

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Ride, shock, and traverse tests were conducted with each vehicle configuration at Fort Hood, Texas. These data were used to develop ride and shock relations for each vehicle and load configuration. Speed limitations due to steering and handling were identified and related to surface roughness for each configuration. Vehicle configurations were ranked according to relative ride quality, cargo responses, obstacle shock, traverse speed, and absorbed energy per mile of traverse. Traverse speed predicted with the AMM was compared to the measured traverse speed for each configuration.

Several of the commercial vehicles outperformed the M151A2 in each of the more important areas in which they were compared. The standard Scout had the best ride quality, the high-performance Ramcharger had the best shock-sustaining characteristics, and the high-performance Bronco had the best traverse speed. The ride quality of most of the commercial vehicles with the rated payload was as good as, or only slightly lower than, those with 800-lb payload. Most of the high-performance commercial vehicles with both the rated payload and the 300-lb payload exceeded the traverse speed of the M151A2.

AMM was determined to be adequate for predicting speed performance on the short test traverse, provided the maximum control speed due to steering- and handling-surface roughness relation is used in predicting speed in place of the 6-watt driver absorbed power limit, which is more appropriate for missions of longer duration.

Appendix A contains the detailed dynamics data for ride and obstacle tests, and Appendix B contains the detailed speed and dynamics data for the traverse tests.

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PREFACE

Personnel of the U. S. Army Engineer Waterways Experiment Station (WES) conducted the study reported herein from April to November 1975. Vehicles were tested at Fort Hood, Texas, for the Modern Army Selected Systems Test Evaluation and Review (MASSTER) in support of MASSTER Test Plan No. FM300 under Intra-Army Order for Reimbursable Services No. 156-75 dated 23 April 1975. The field test data were analyzed for the Systems Division of the Research, Development, and Engineering Directorate of the U. S. Army Tank-Automotive Command (TACOM), under Intra-Army Order for Reimbursable Services No. 75-12R dated 13 May 1975.

The study was conducted under the general supervision of Messrs. W. G. Shockley, Chief, Mobility and Environmental Systems Laboratory; A. A. Rula, Chief, Mobility Systems Division (MSD); E. S. Rush, Chief, Mobility Investigations Branch (MIB); and C. J. Nuttall, Jr., Chief, Mobility Research and Methodology Branch (MRMB). Field tests were conducted at Fort Hood, Texas, with the general support of MASSTER under the general supervision of COL A. S. Hawkins, Director of the Combat Service Support and Special Programs Directorate, and LTC T. G. Holloway, Chief of the Mobility and Maintenance Division, MASSTER, and under the direct support supervision of LTC L. W. Grimes, Chief, Mobility Test Branch (MTB) and C. D. Thompson, Test Officer, MTB.

Field test data were collected by Messrs. D. D. Randolph, MRMB; L. B. Naron, Operations Branch, Instrumentation Services Division; L. M. Lewis, MIB; C. R. May, MIB; C. D. Currie, MIB; J. N. Peacock, MIB; and D. E. Strong, MIB. Vehicle performance was predicted using the Army Mobility Model (AMM) by Mr. R. P. Smith, Data Handling Branch, MSD. The report was prepared by Mr. Randolph.

COL G. H. Hilt, CE, was the Director of WES during the study and preparation of the report. Mr. F. R. Brown was Technical Director.

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LIST OF FIGURES

CONVERSION FACTOR, U. S. CUSTOMARY TO METRIC (SI) UNITS OF MEASUREMENT

Units of measurement used in this report can be converted as follows:

Multiply	By	To Obtain
inches	0.0254	metres
feet	0.3048	metres
miles (U. S. statute)	1.609344	kilometres
square inches	6.4516×10^{-4}	square metres
acres	4046.856	square metres
pounds (force)	4.448222	newtons
pounds (force) per square inch	6.894757	kilopascals
miles per hour	1.609344	kilometres per hour
tons (short)	907.1847	kilograms
horsepower per ton	83.82	watts/kilonewton
degrees (angle)	0.01745329	radians

COMPARISON OF RIDE AND MOBILITY CHARACTERISTICS OF SELECTED COMMERCIAL 1/4- TO 3/4-TON VEHICLES AND THE MILITARY M151A2 UTILITY TRUCK

PART I: INTRODUCTION

Background

1. The rising cost of consumer goods has affected every element of American society, including the military. The annual military investment in personnel and specially designed military equipment is substantial. Measures have been required to ensure that the task of equipping and maintaining a modern Army can be accomplished with a maximum return on investment. Use of commercially designed vehicles to replace or support certain military vehicle types was identified in the 1972 DA WHEELS Study[1] as an area where cost may be reduced without affecting the overall Army posture.

2. In response to the WHEELS Study findings, the U. S. Army Materiel Command (AMC) and the U. S. Army Tank-Automotive Command (TACOM) selected a high-performance vehicle and a standard commercial vehicle from each of five manufacturers for evaluation to assist in identifying a commercial vehicle configuration as a potential replacement for the M151A2 utility truck. Common features of the high-performance vehicle group were high-horsepower engines, power steering, power brakes, automatic transmission, and four-wheel drive. The standard group was characterized by lower horsepower and four-wheel drive at the driver's option.

3. The U. S. Army Engineer Waterways Experiment Station (WES) was asked by the Modern Army Selected Systems Test Evaluation and Review (MASSTER) to support its test program No. FM300 by collecting data on the mobility and ride characteristics of the M151A2 1/4-ton utility truck and candidate commercial vehicles. Ride, shock, and traverse tests were to be conducted at Fort Hood, Texas, during May-June 1975

over selected dynamics test courses, rigid obstacles, and a traverse test course. WES was asked by TACOM to analyze the measured ride, shock, and traverse data and to prepare a report.

Purpose

4. The purposes of this study were to:

   a. Obtain experimental ride, shock, and speed data for 10 commercial 1/4- to 3/4-ton vehicles, each carrying an 800-lb payload.

   b. Use experimental data to develop the appropriate ride and shock relations for use in the Army Modiblity Model (AMM).[2,3,4]

   c. Make a limited comparison of the candidate commercial vehicles with the military M151A2 utility truck on the bases of ride, shock, and traverse performances.

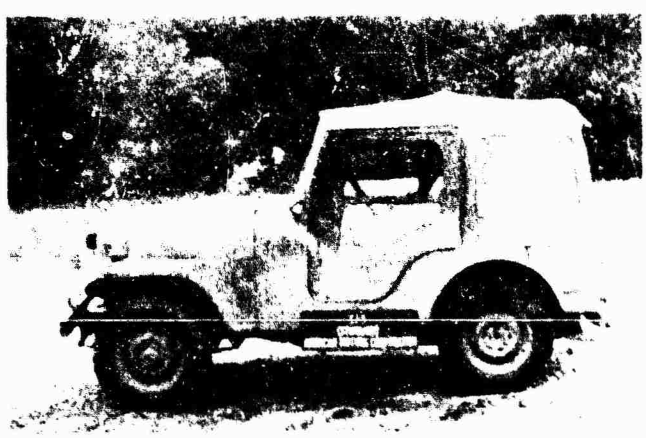
   d. Use the experimental ride and shock data and the measured traverse speed data to validate the AMM relations.

Scope

5. Tests were conducted with the 10 commercial vehicles and the M151A2 on seven ride test courses, one obstacle-impact test course, and one traverse test course. Data from the ride and obstacle-impact tests were used to characterize the vehicle's vibration and shock qualities for input to the AMM. Speed was predicted for the traverse course with AMM the AMM and compared with the measured traverse speed for each of the study vehicles.

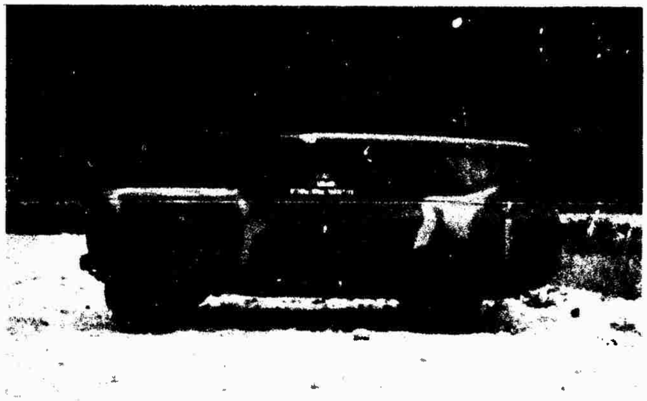
a. Standard Ramcharger

b. Standard Blazer



c. Standard CJ5

Figure 1. Study vehicles (sheet 1 of 4)



d. Standard Scout

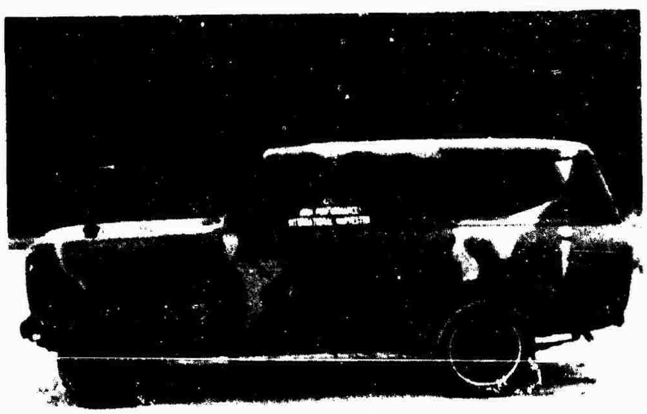
e. Standard Bronco

f. High-performance Ramcharger

Figure 1 (sheet 2 of 4)

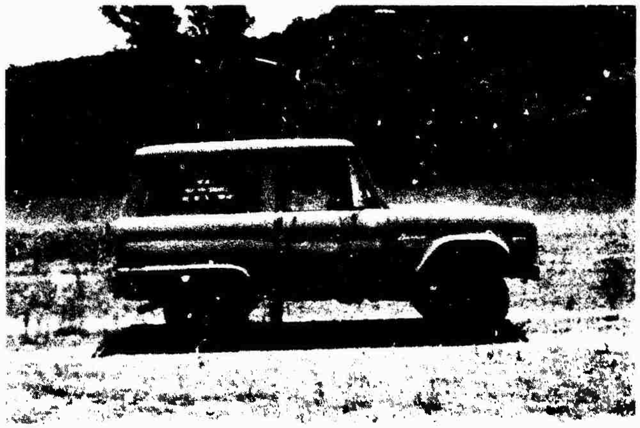
g. High-performance Blazer

h. High-performance CJ5



i. High-performance Scout

Figure 1 (sheet 3 of 4)



j. High-performance Bronco

k. M151A2

Figure 1 (sheet 4 of 4)

Instrumentation for Measuring Vehicle Dynamic Responses

9. The instrumentation for measuring vehicle dynamic responses consisted of: (a) three orthogonally positioned linear accelerometers and two angular accelerometers mounted near the geometric center of the cargo area to measure the bounce, fore-to-aft, side-to-side, and pitch-and-roll accelerations in the cargo area; (b) three orthogonally positioned linear accelerometers mounted on the driver's seat and connected to a portable ride meter to measure the driver's absorbed power;* (c) one vertically oriented accelerometer mounted on the floor beneath the driver's seat; and (d) one vertically oriented accelerometer mounted on the front axle. All signals were recorded on FM magnetic tape by a 14-channel heavy-duty recorder and its associated signal processor and 30-volt battery power source, which were also mounted on the vehicle (Figures 2-5). The ride meter converted the acceleration signals at the driver's seat to absorbed power. In addition to being recorded on tape, absorbed power was displayed continuously on a meter for visual observation of the responses occurring during each test. The elapsed time and time-averaged absorbed power were obtained from a digital meter at the end of each test.

Test Courses

Location

10. MASSTER personnel selected the general test area. WES personnel selected the specific dynamics and traverse courses in areas where obvious GO conditions existed. All courses were in the same general area at Fort Hood, northwest of the Belton Reservoir along Owl Creek (Figure 6). Geographic coordinates for the area and locations of the test sites are given in Figure 7. An environmental description of Fort Hood is given in Reference 5.

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* Absorbed power is the criterion used in human tolerance to vibration (see paragraph 35).

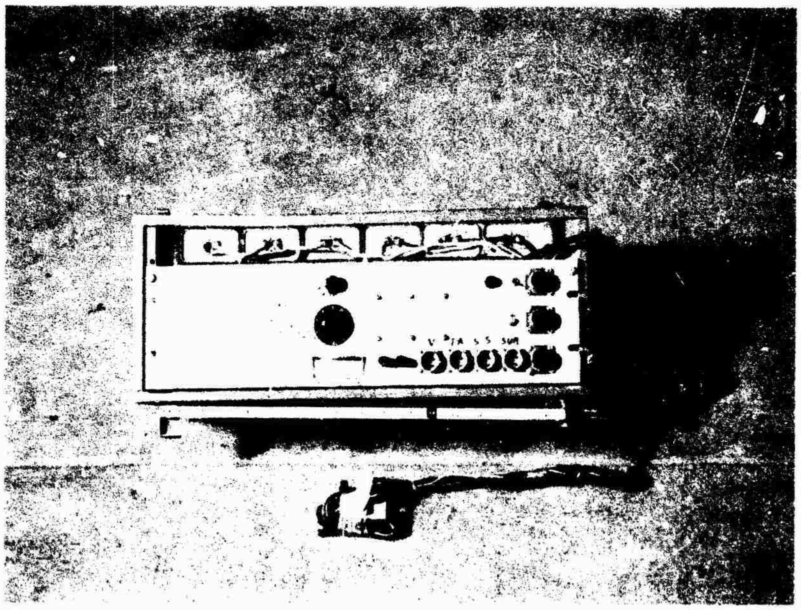
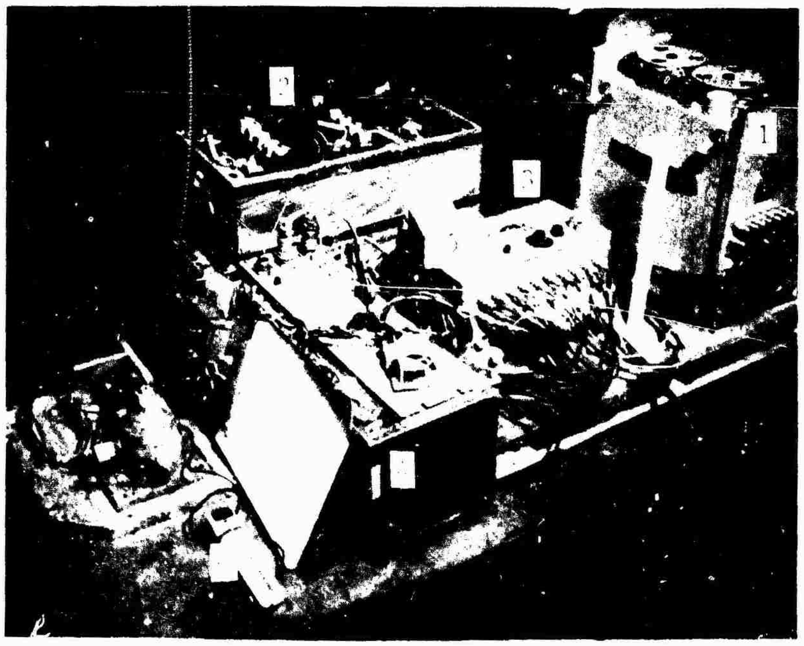


Figure 2. Portable ride meter and associated accelerometers



Legend

1 - Tape recorder
2 - 30-volt power source
3 - Signal controller
4 - Ride meter
5 - Absorbed power display
6 - Voltmeter w/averaging circuit

Figure 3. Basic instrumentation recording components

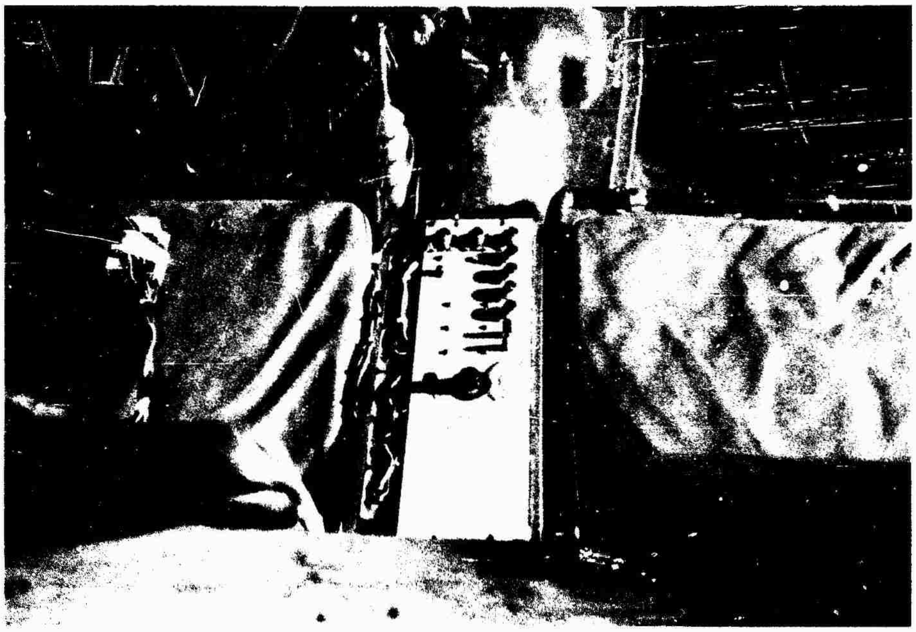
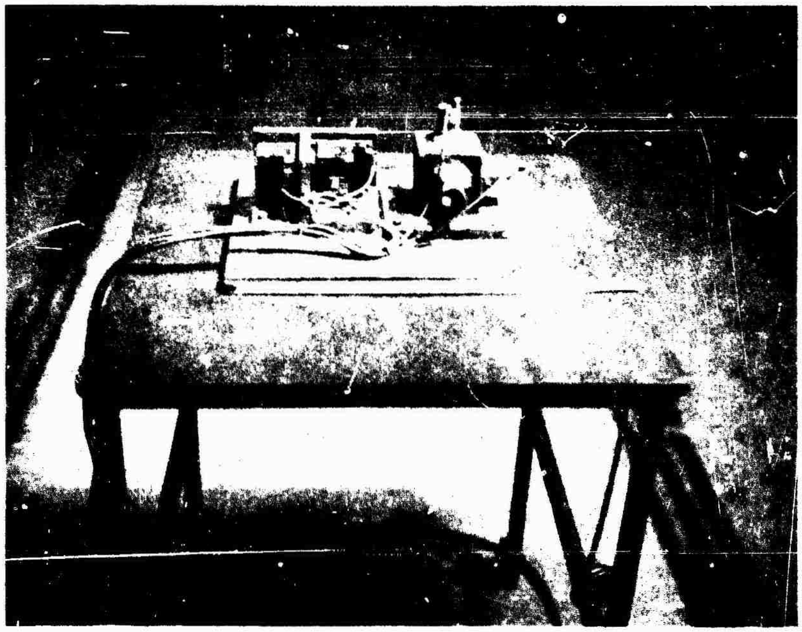


Figure 4. Ride meter installed for vehicle test



Legend

1 - Linear accelerometers
2 - Rotational (angular) accelerometers

Figure 5. Accelerometer mount for cargo area

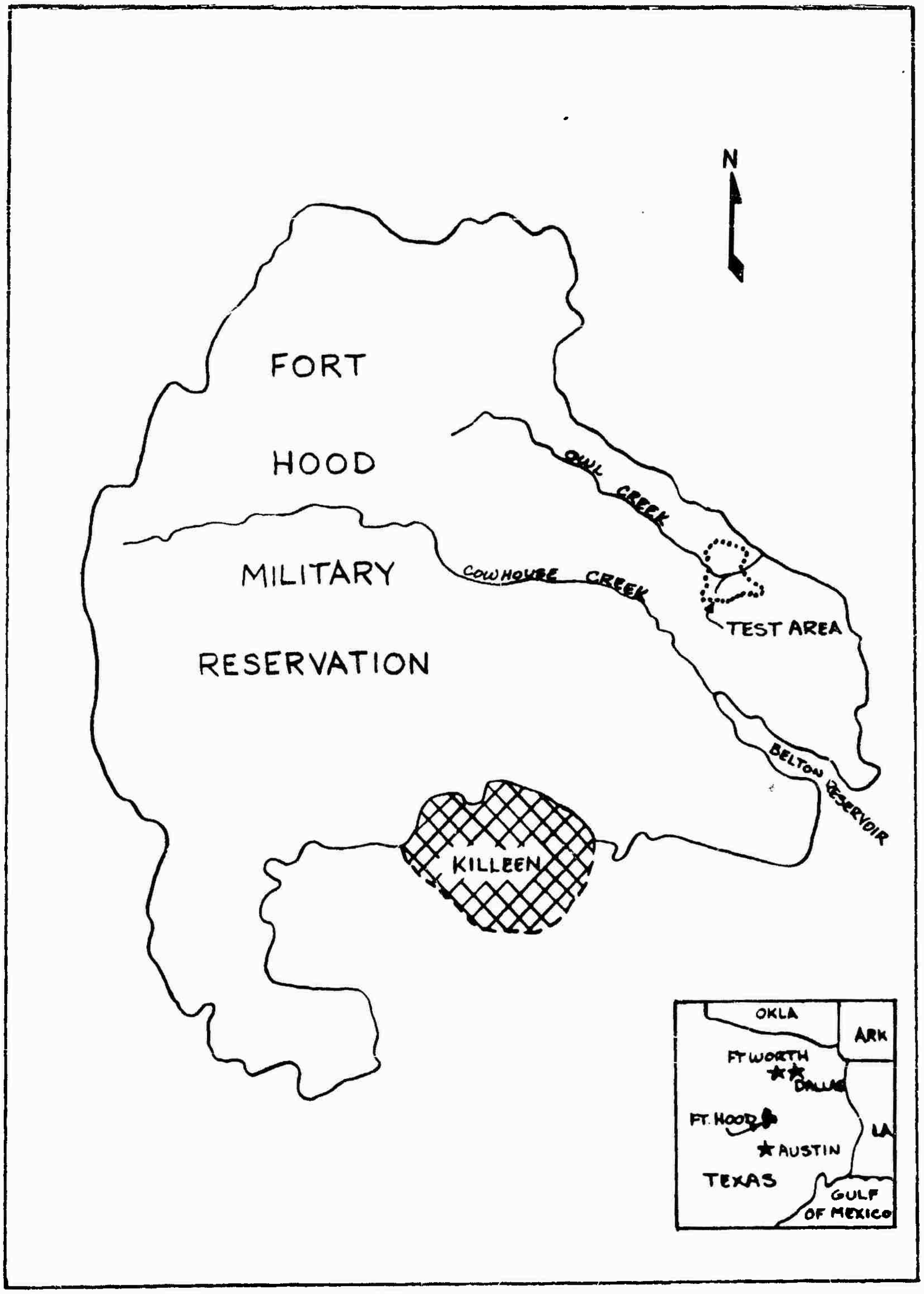


Figure 6. Vicinity map of the Fort Hood Military Reservation, Texas

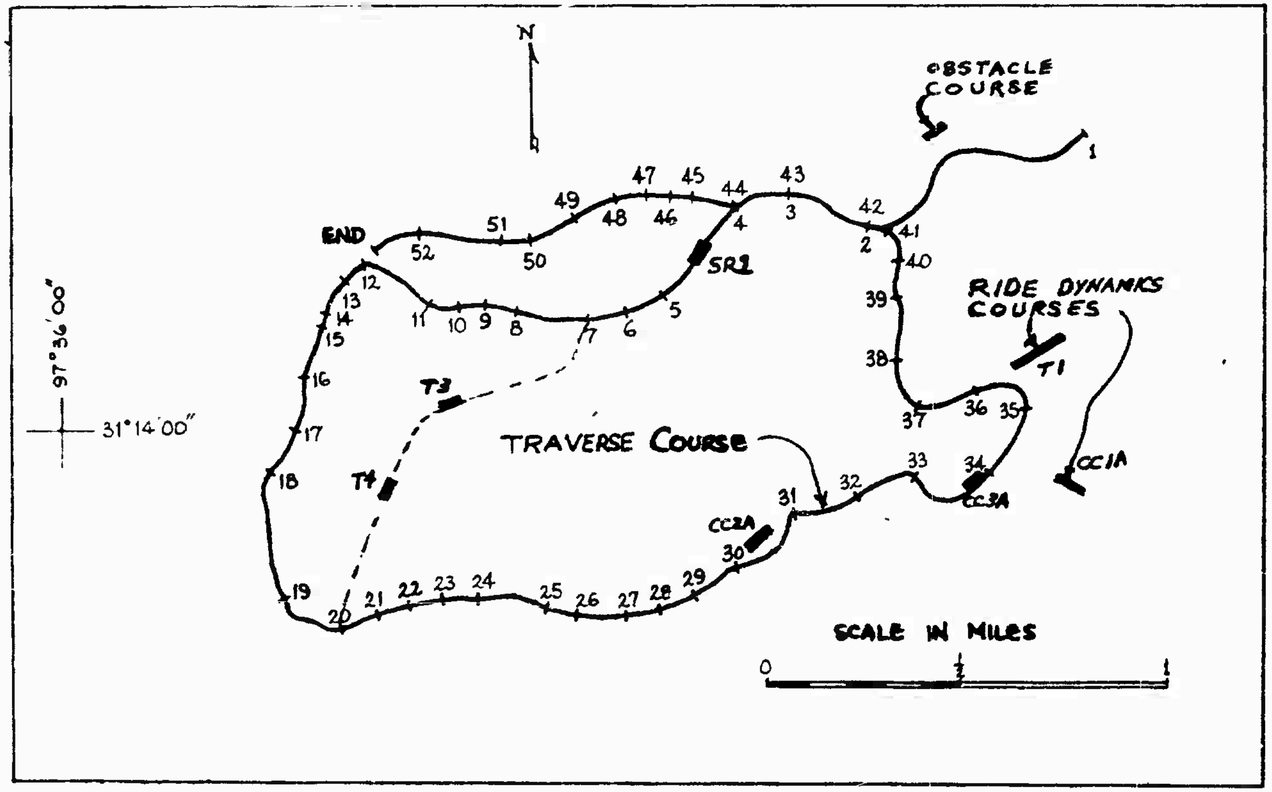


Figure 7. Location of test areas at Fort Hood, Texas

Description

11. Ride test courses. Previous tests[5,6] at Fort Hood have shown a distinct difference in vehicle ride over cross-country terrain and over roads and trails. The repetitive traffic over trails tends to smooth out the natural high-frequency components in the terrain surface. Therefore, to provide a representative group of surface conditions, three cross-country courses, three trails, and a secondary road (graveled surface) were used to characterize vehicle ride. The cross-country test courses were designated as CC1A, CC2A, and CC3A; the trails, as T1, T3, and T4; and the single secondary road, as SR1 (Figure 7 for locations, and Figure 8 for photos of the courses).

12. Trail courses T1, T3, and T4 and secondary road course SR1 were the same as established for previous test programs.[5,6] CC1A, CC2A, and CC3A were in the same area, but with different paths, to ensure that the high-frequency components of the terrain surface were present.

13. The three cross-country courses, course T3, and course SR1 were each 400 ft long; T1 was 800 ft long; and T4 was 300 ft long. A profile of each course was measured with rod and level at 1-ft intervals, and surface roughness (rms elevation) was determined from these profiles using current procedures which eliminate frequency components having wave lengths greater than 60 ft. The surface roughness (rms elevation) for each ride test course was as follows:

Test Course	Surface Roughness (rms elevation), in.
CC1A	0.5
CC2A	1.4
CC3A	1.8
T1	2.0
T3	0.8
T4	1.2
SR1	0.4

14. Obstacle-impact test course. Rigid, semicircular obstacles 4, 6, and 8 in. high were positioned in a line on a level, hard surface. A perpendicular approach lane to each obstacle was used to permit the

a. Cross-Country Test Course 1A

b. Cross-Country Test Course 2A

c. Cross-Country Test Course 3A

d. Secondary Road Test Course 1

Figure 8. Dynamics test courses (sheet 1 of 2)

e. Trail Test Course 1

f. Trail Test Course 3

g. Trail Test Course 4

h. 8-in. Obstacle on Test Course

Figure 8 (sheet 2 of 2)

test vehicles to achieve the desired speeds. Time to traverse the last 100 ft to the obstacle (during which speed was fully stabilized) was used to compute the impact speed. Location of the course is shown in Figure 7; a photograph of the 8-in. obstacle, in Figure 8h; and a sketch of the obstacle course layout, in Figure 9.

15. Traverse course. The traverse course was the same as the course described as the Primary Test Course for a previous study,[5] but all terrain units previously classed as cross-country were redefined as trails because of repetitive traffic over the course since the previous study (Figure 10). The course was 7.07 miles long and composed of contiguous secondary road and trail units. The 14 secondary road units (units 1-11 and 41-43) and 38 trail units (units 12-40 and 44-52) comprised 42 and 58 percent, respectively, of the total length.

Test Procedures

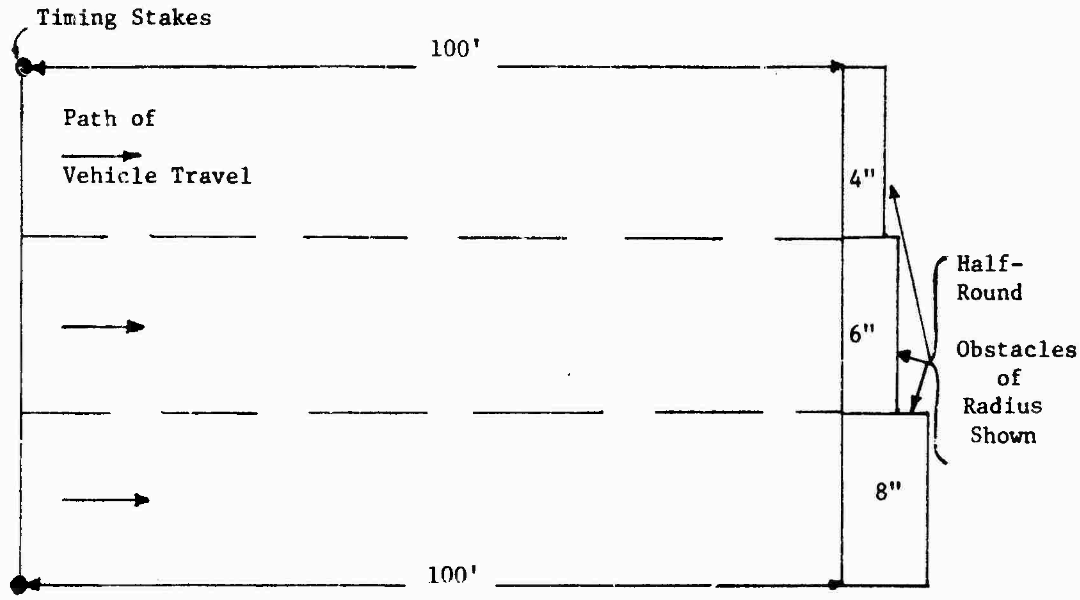
Preparation of vehicles for testing

16. The test vehicles were serviced and checked before each test to ensure peak mechanical performance during tests. When major mechanical problems developed, the commercial vehicles were returned to local dealers for repair. Minor repairs were accomplished in the field by Army mechanics.

17. Roll bars were fitted to all commercial test vehicles to decrease the chances of serious accidents and to ensure that all vehicles were equipped with the same safety devices (some of the candidate commercial vehicles were equipped with roll bars as standard equipment).

18. Seat belts and safety helmets were also used during testing of all vehicles except the M151A2. Drivers of the M151A2 wore safety helmets but felt safer without the seat belts since the vehicle was not equipped with a roll bar.* However, the WES driver (whose speeds were

* Limited experience with military drivers has indicated that presence of a roll bar increases operating speeds in rough terrain.



a. PLAN VIEW

b. PROFILE VIEW

Figure 9. Layout of obstacle-impact test course

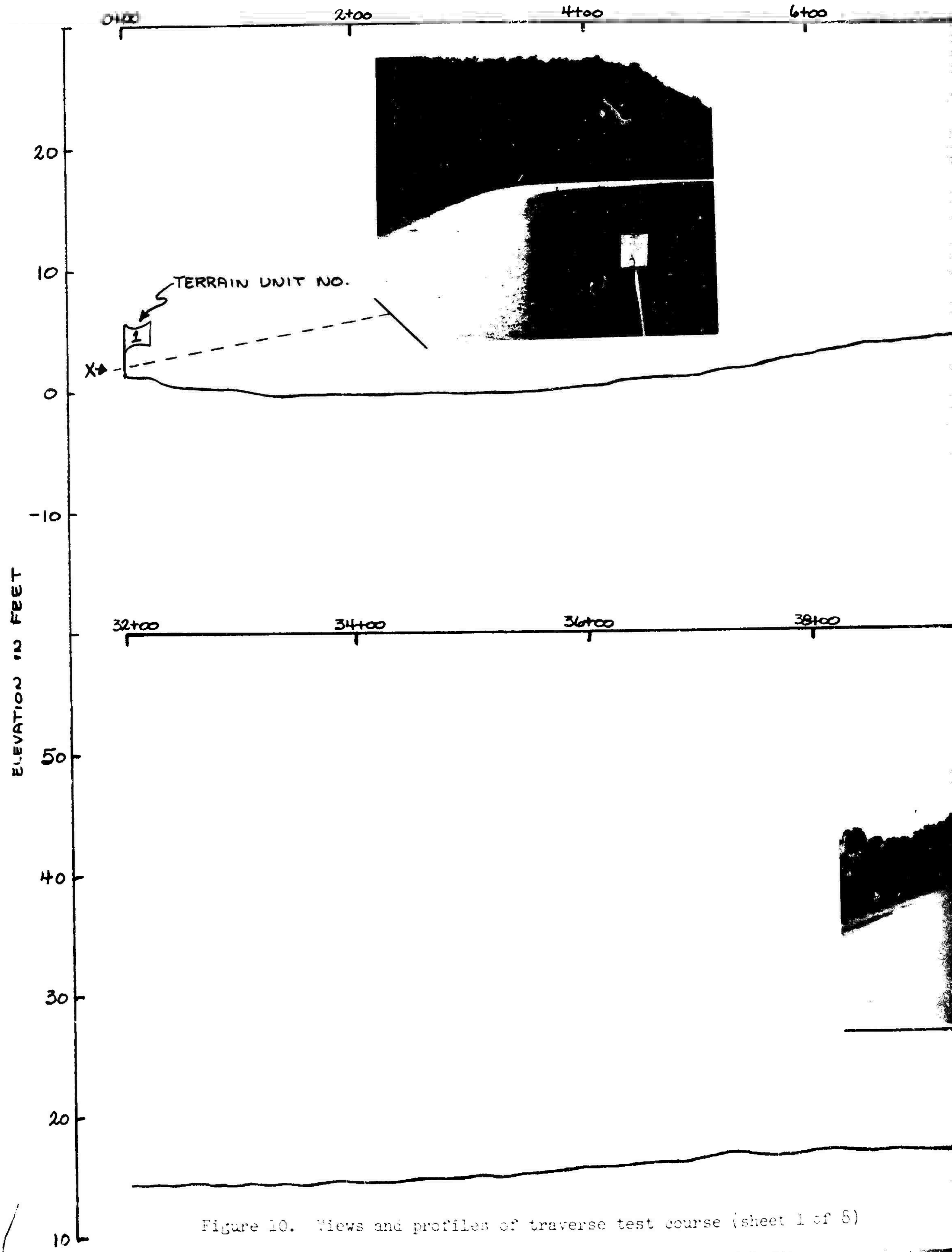
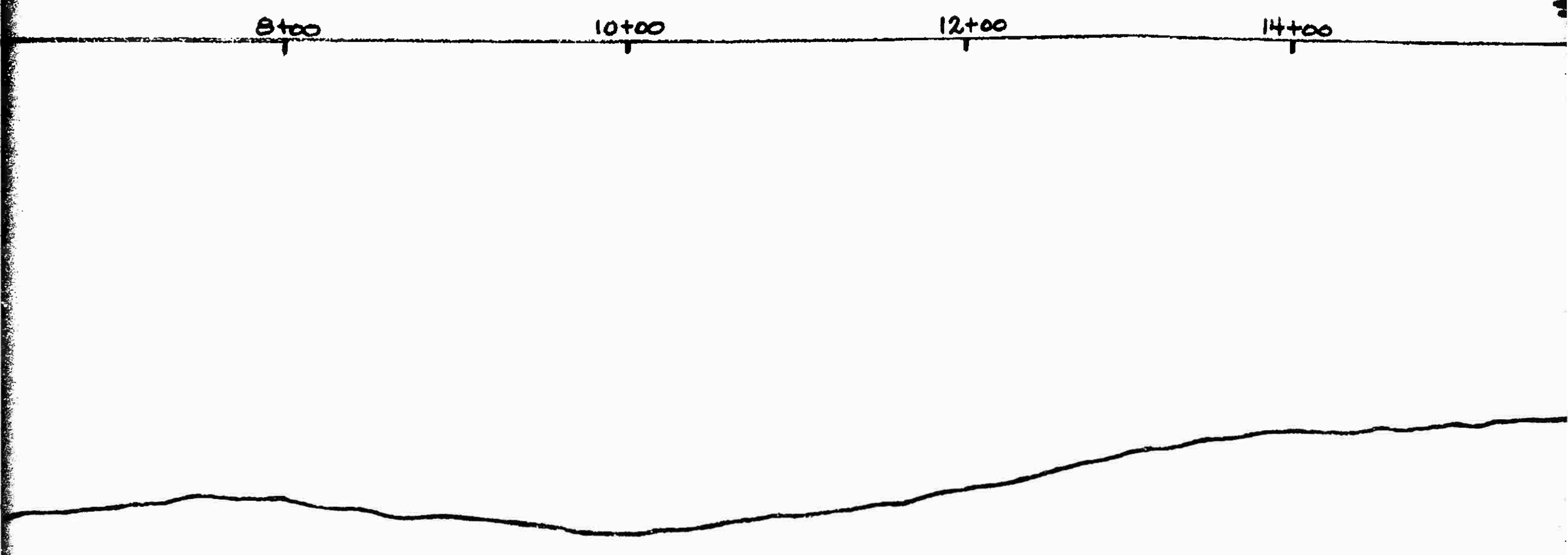
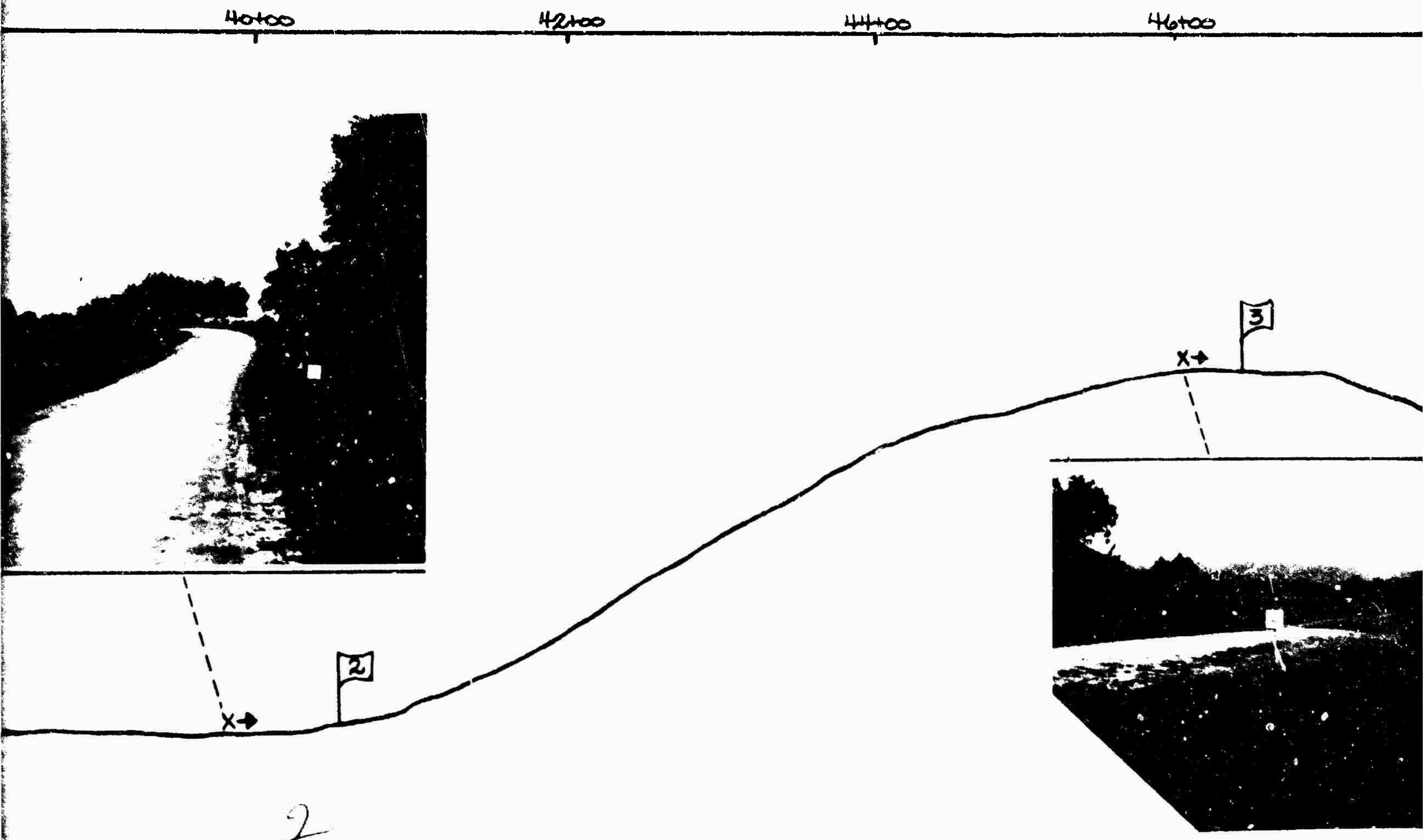


Figure 10. Views and profiles of traverse test course (sheet 1 of 8)





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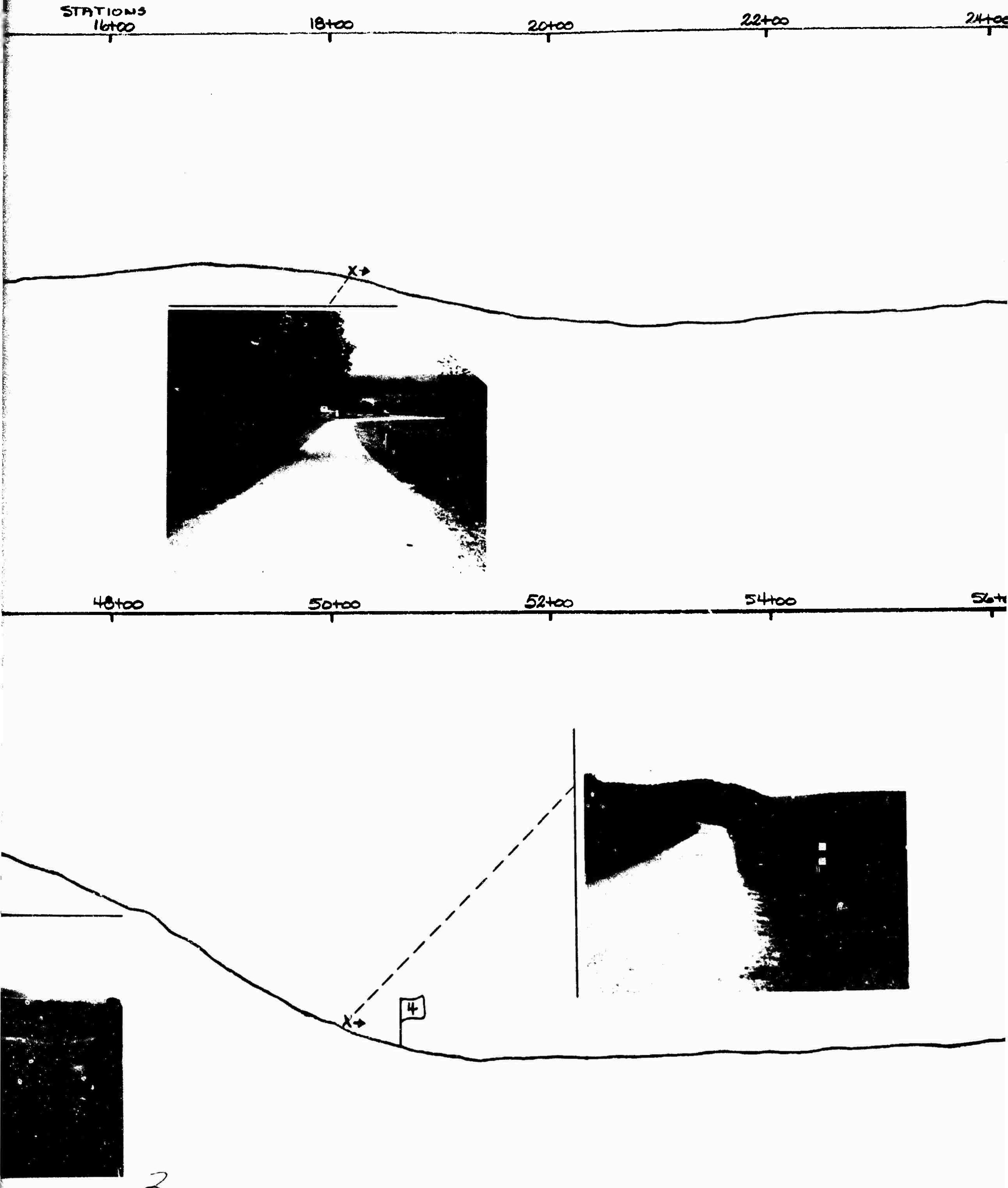

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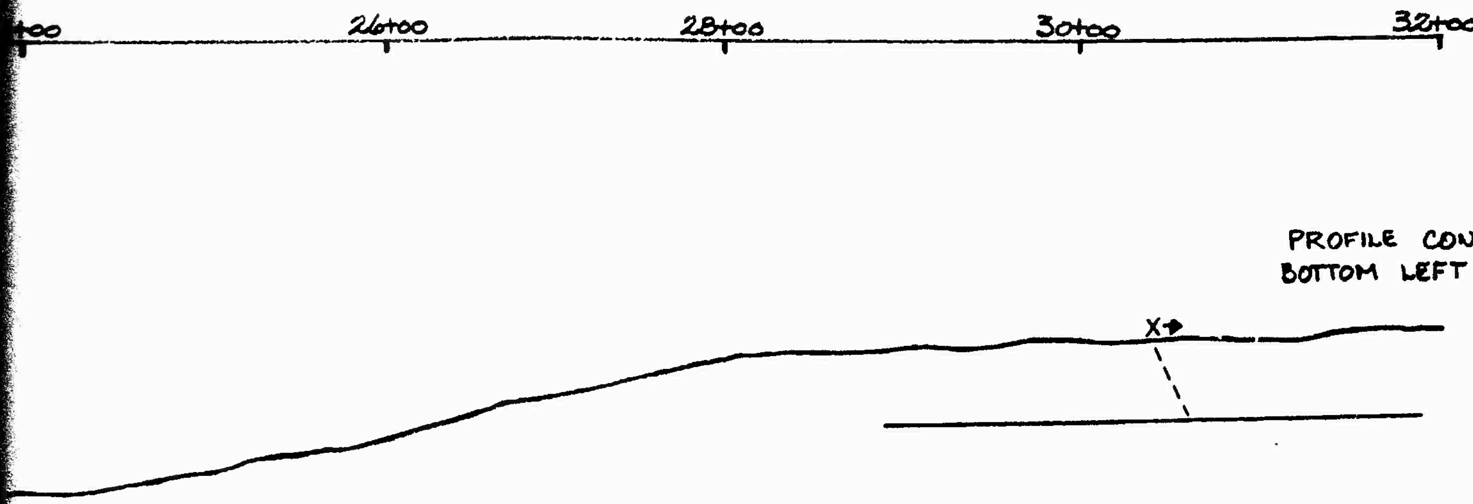

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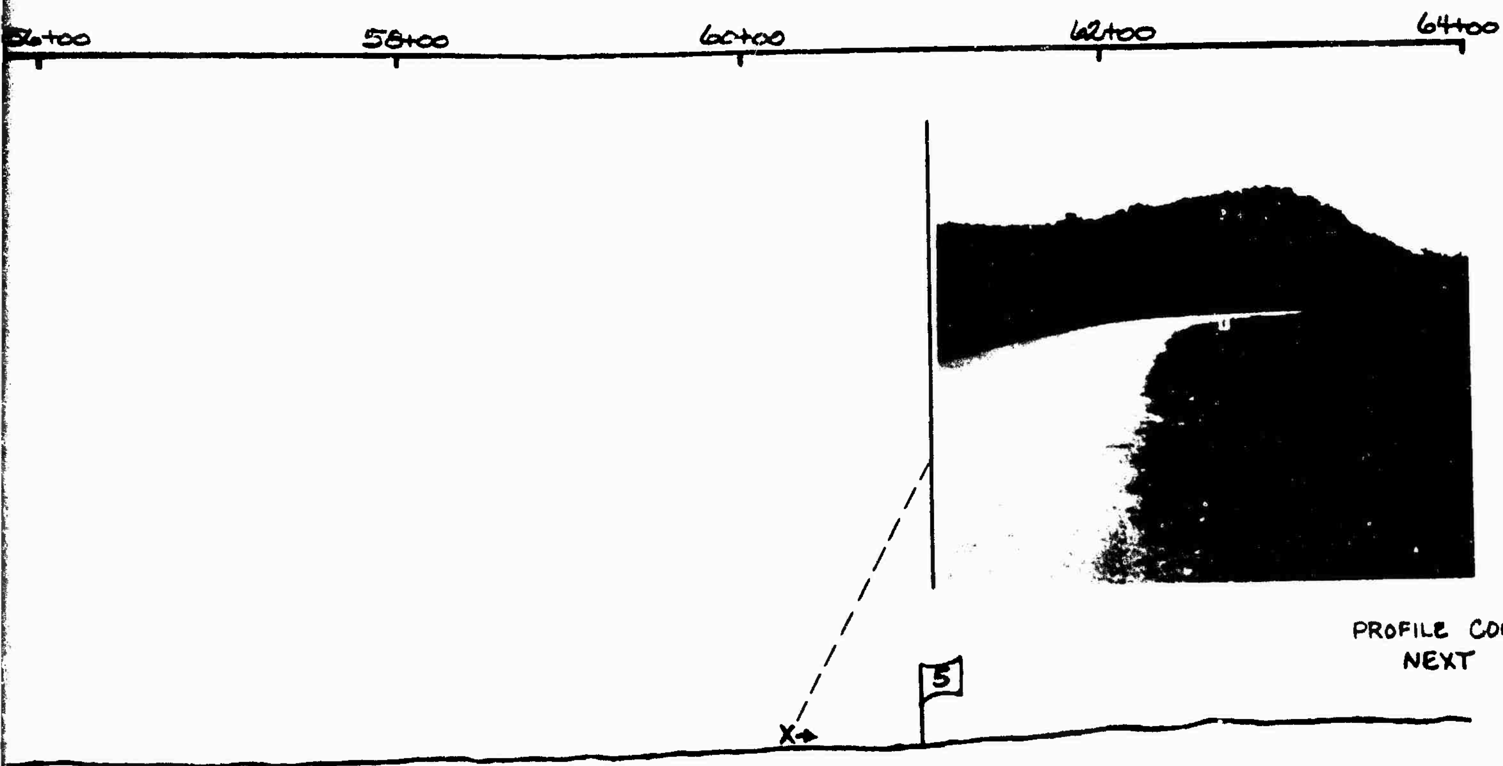

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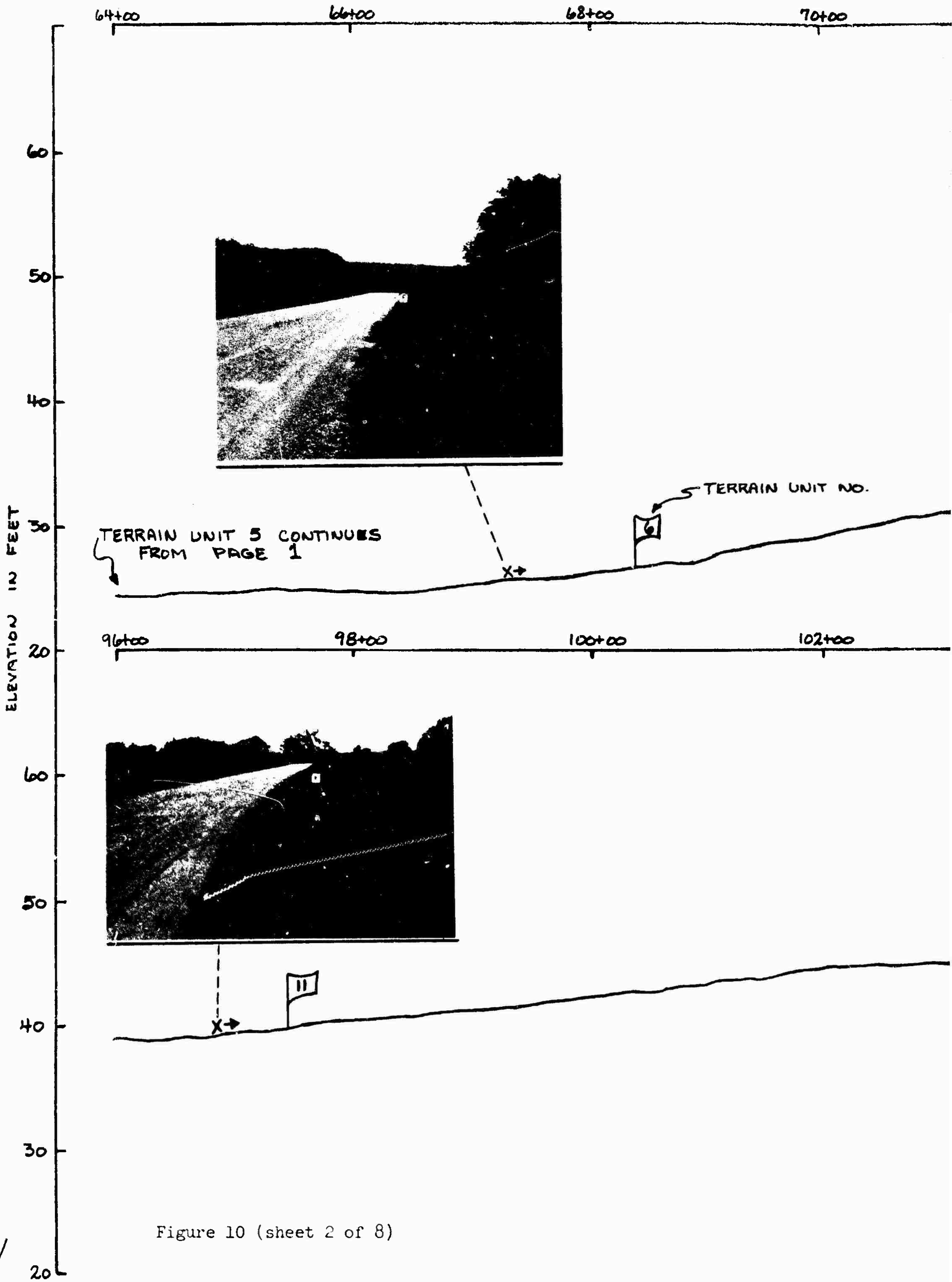

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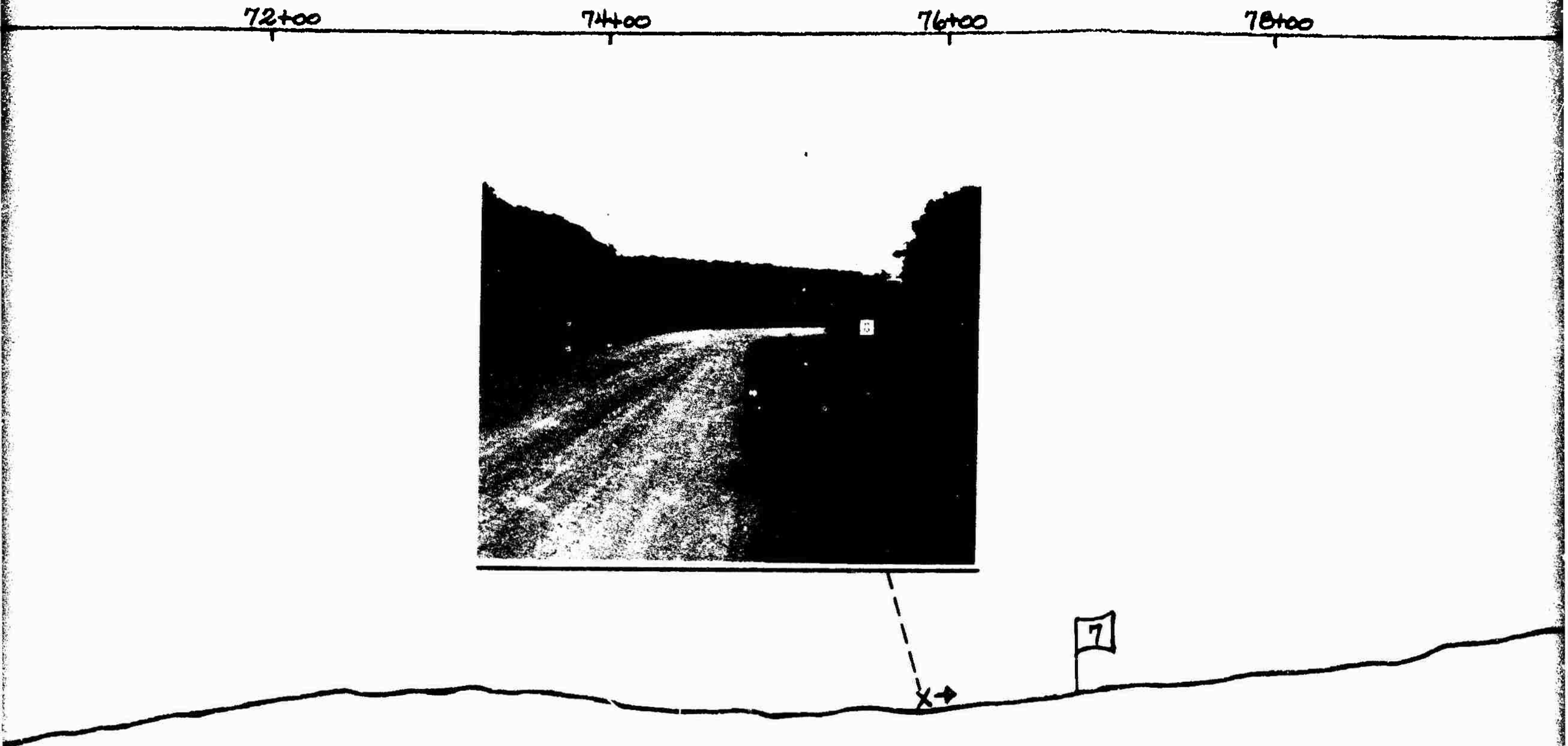

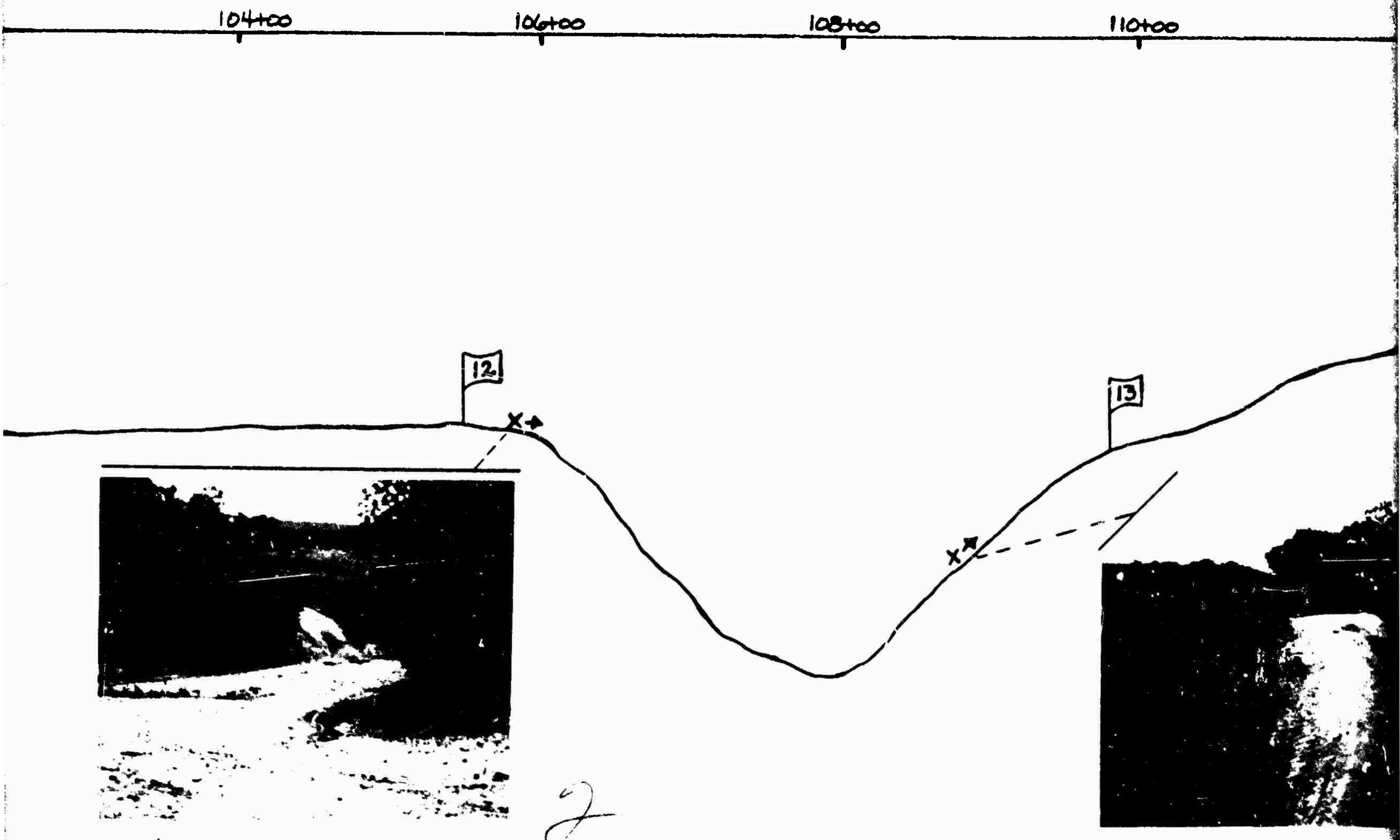

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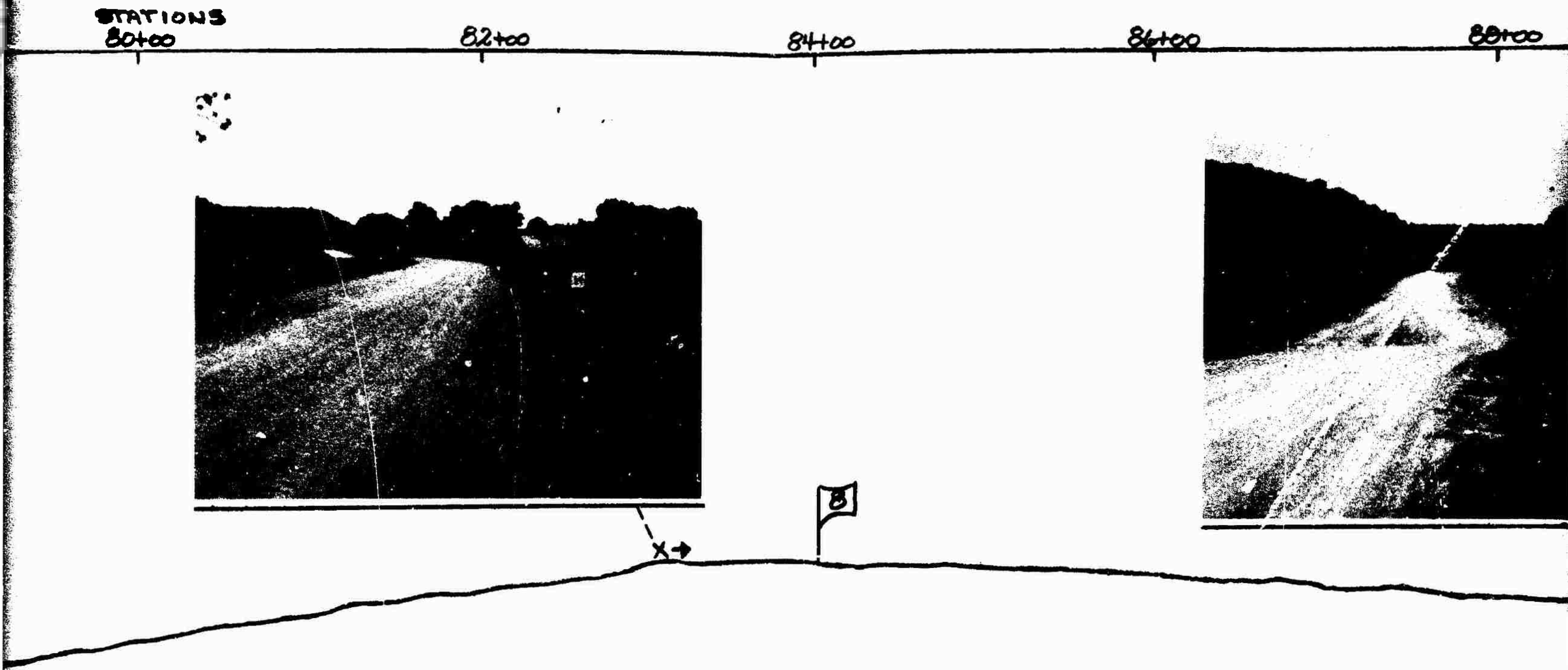

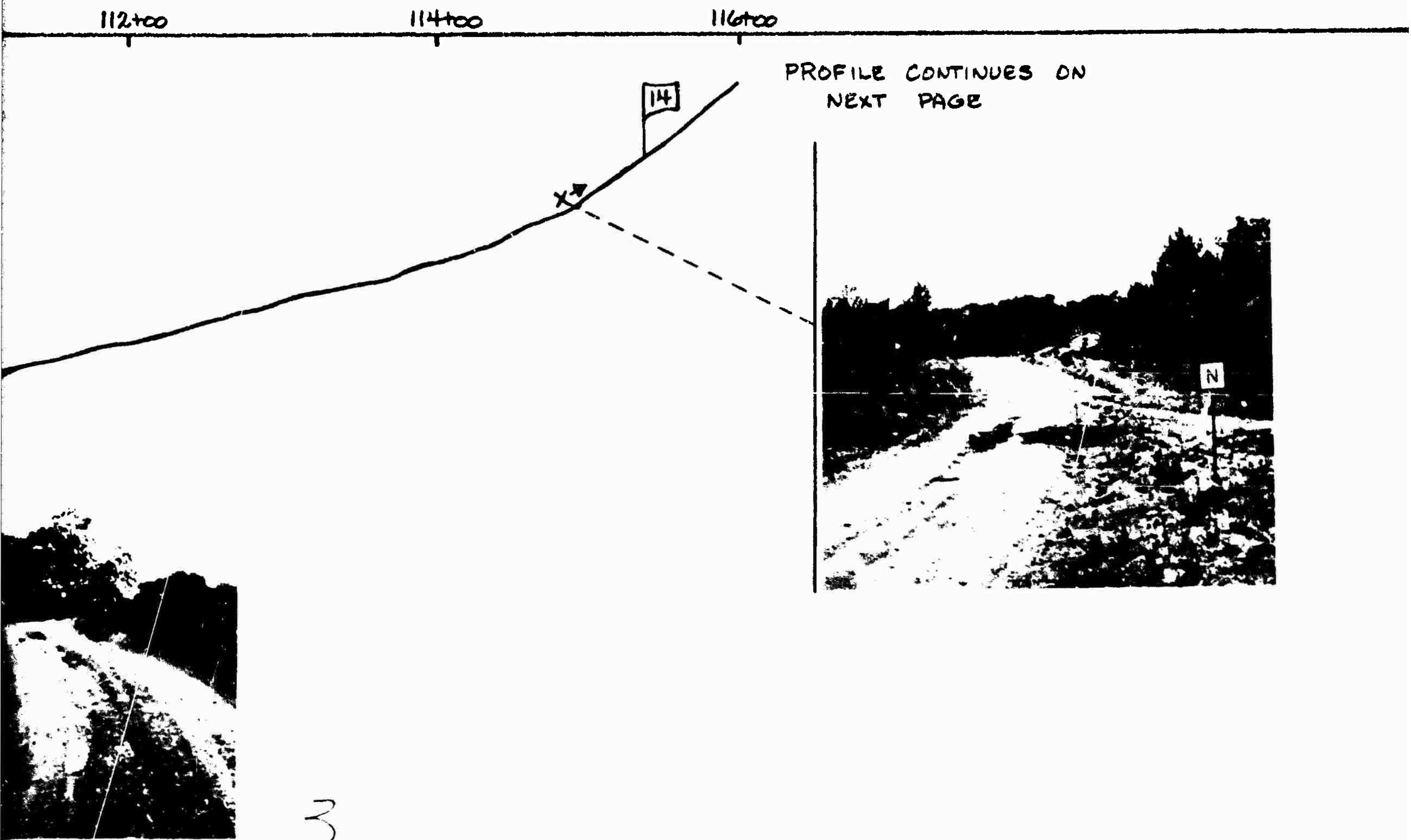

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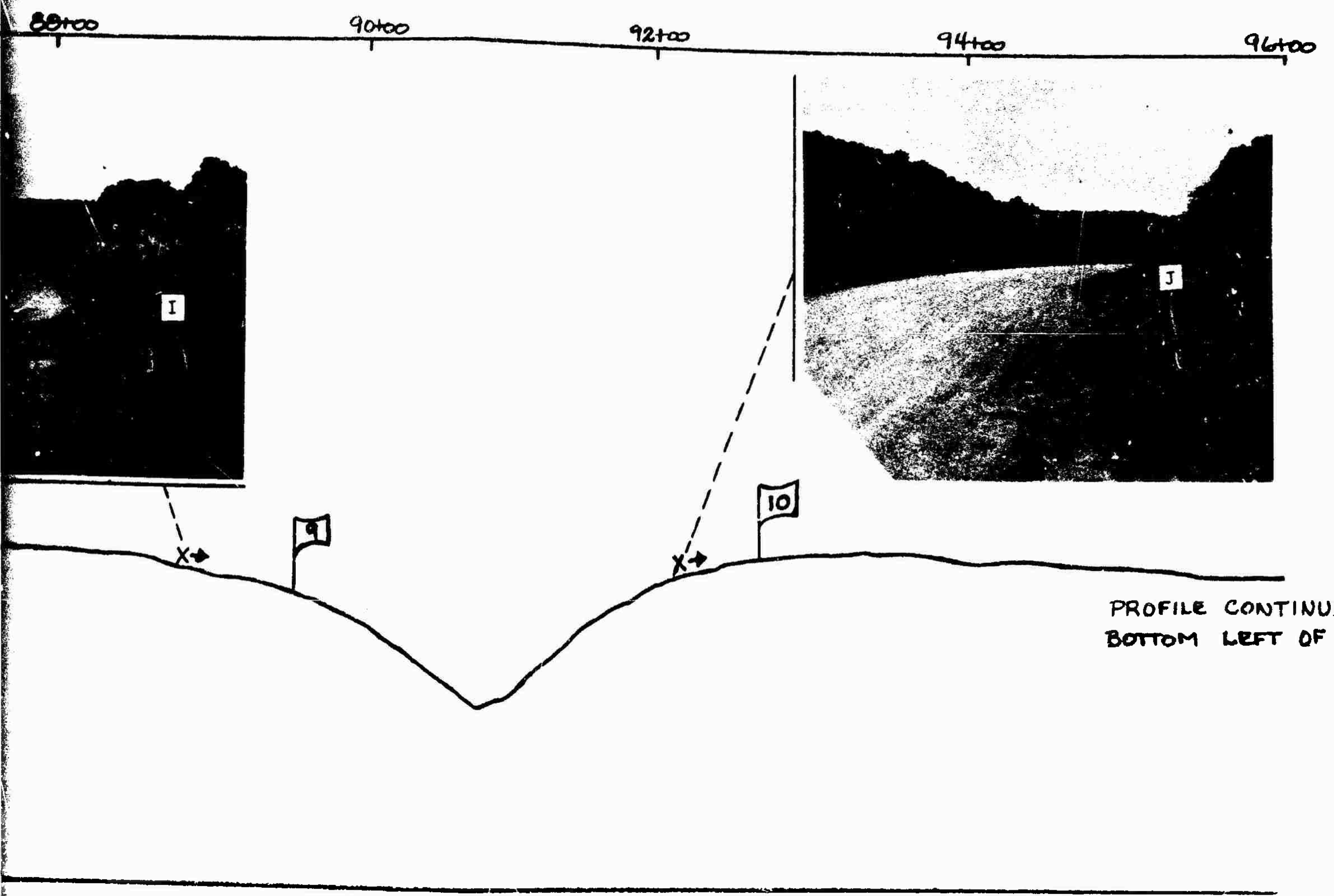

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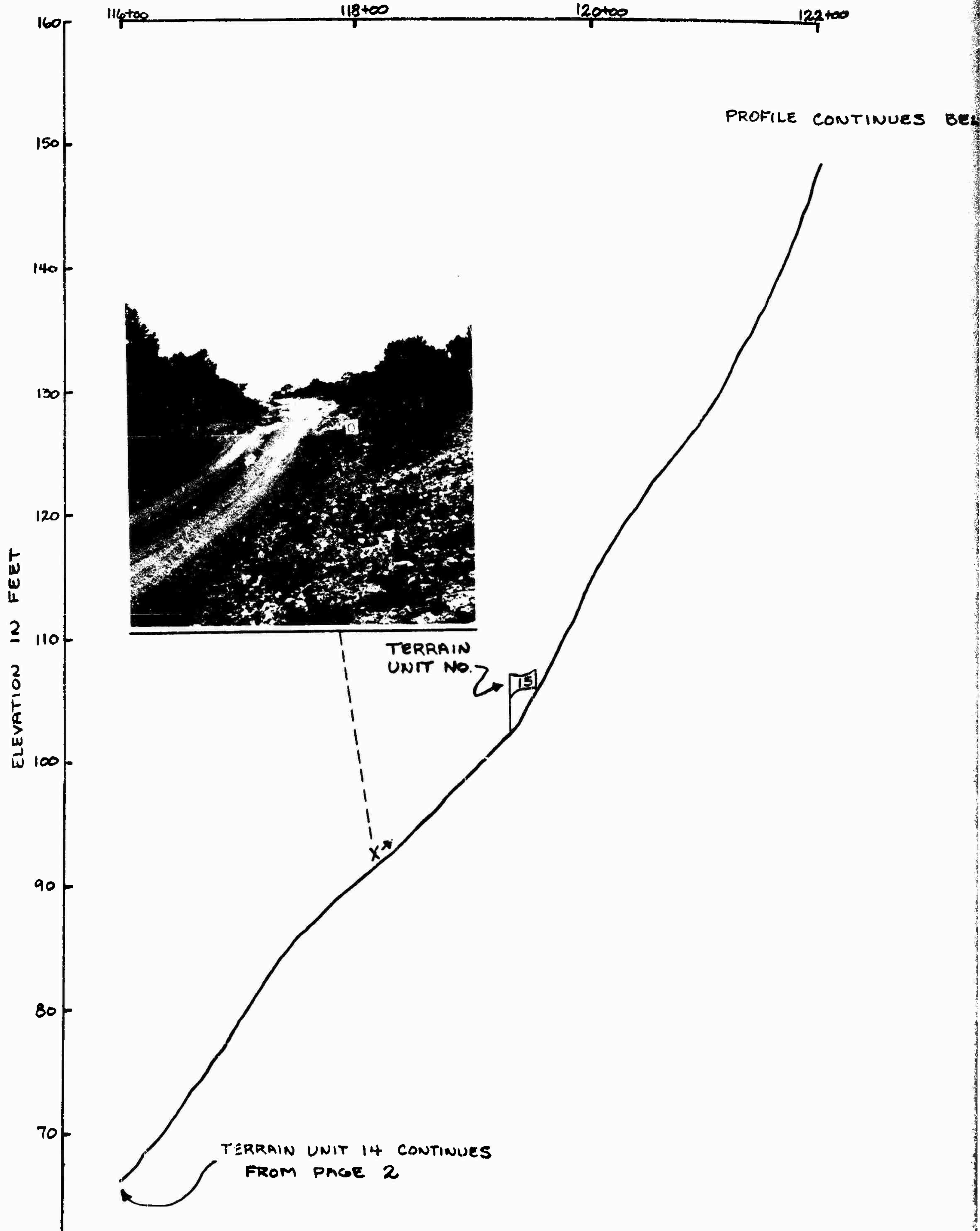

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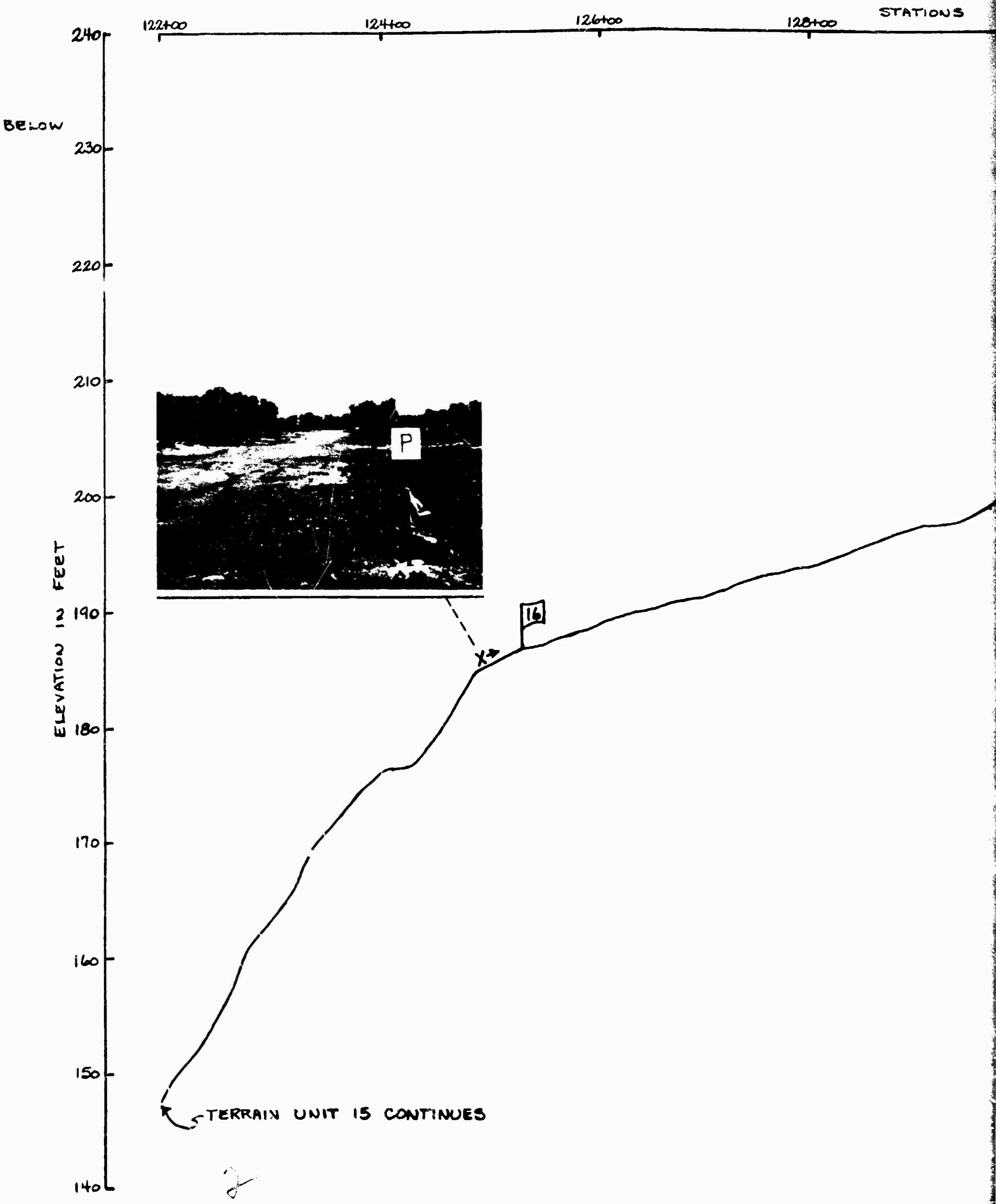
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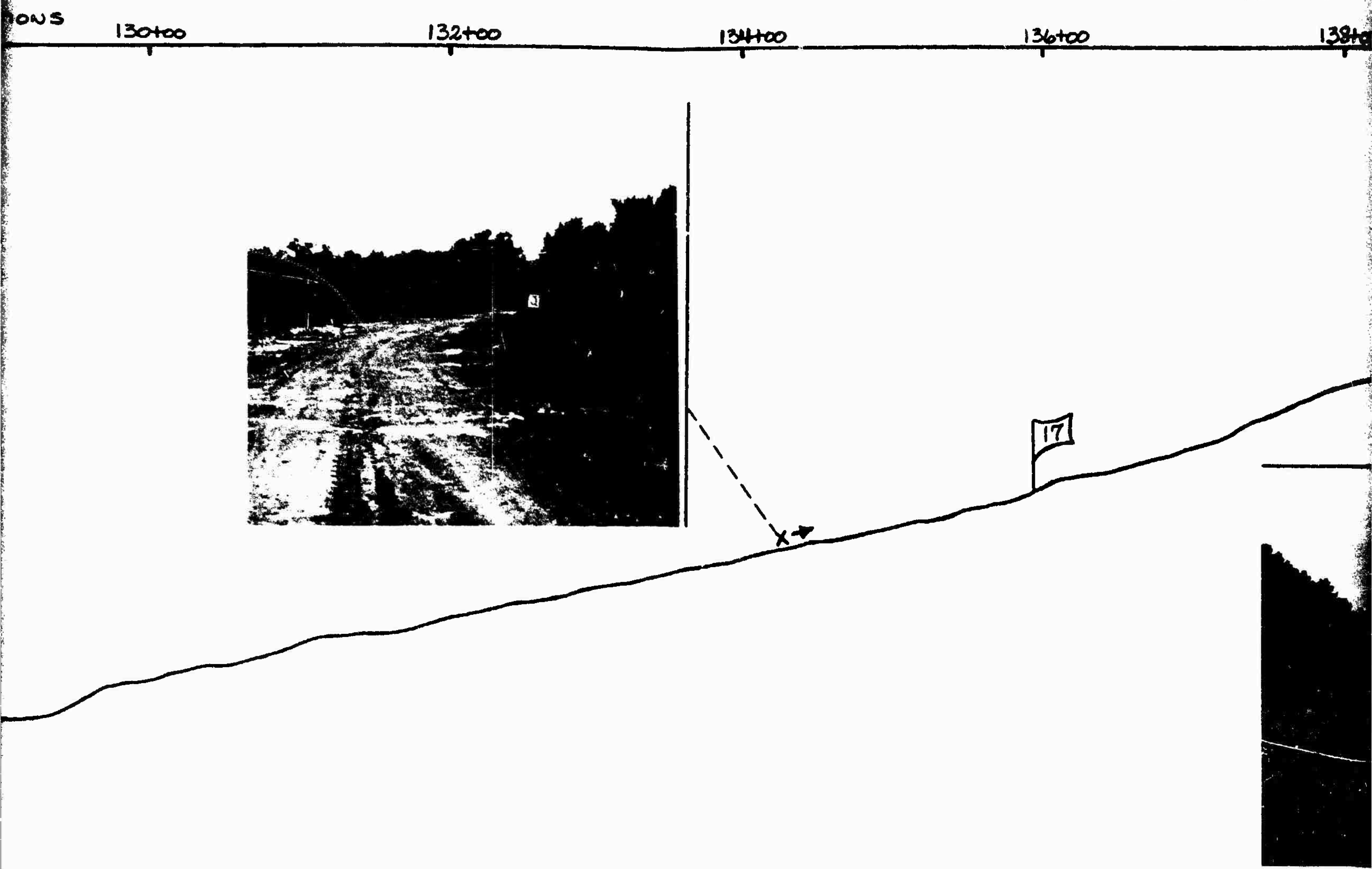

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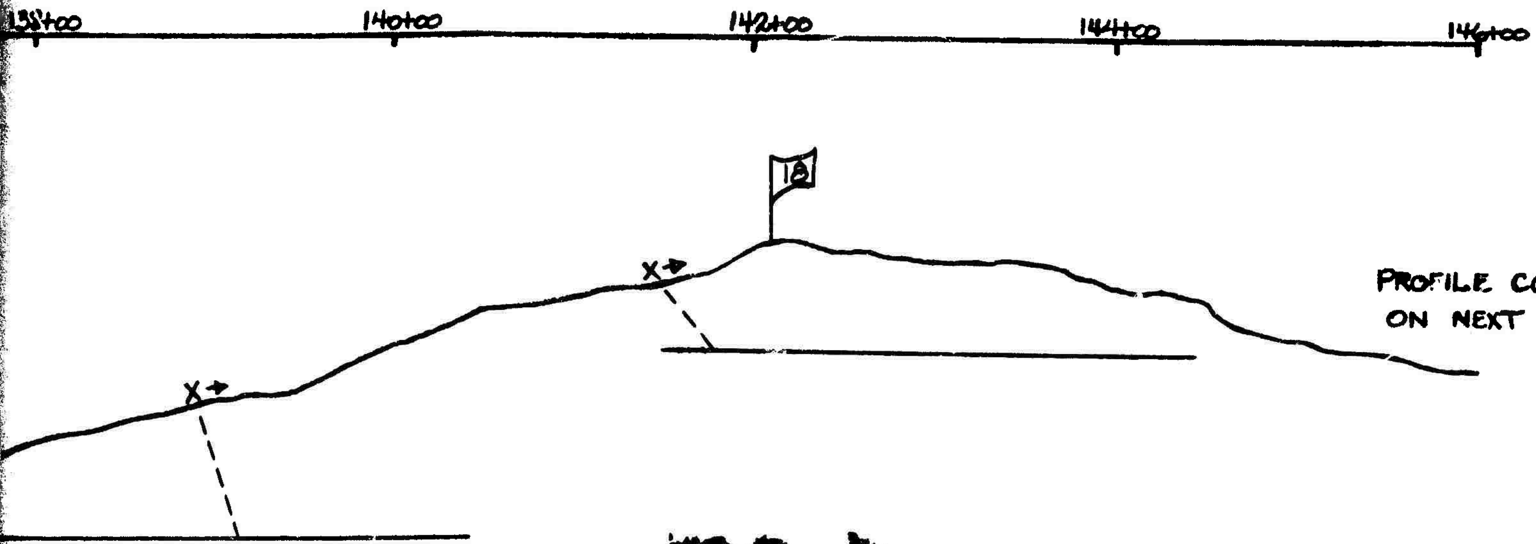

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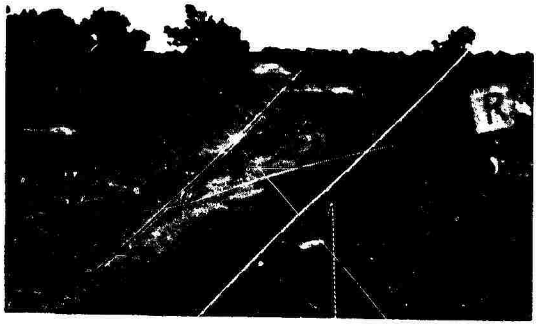

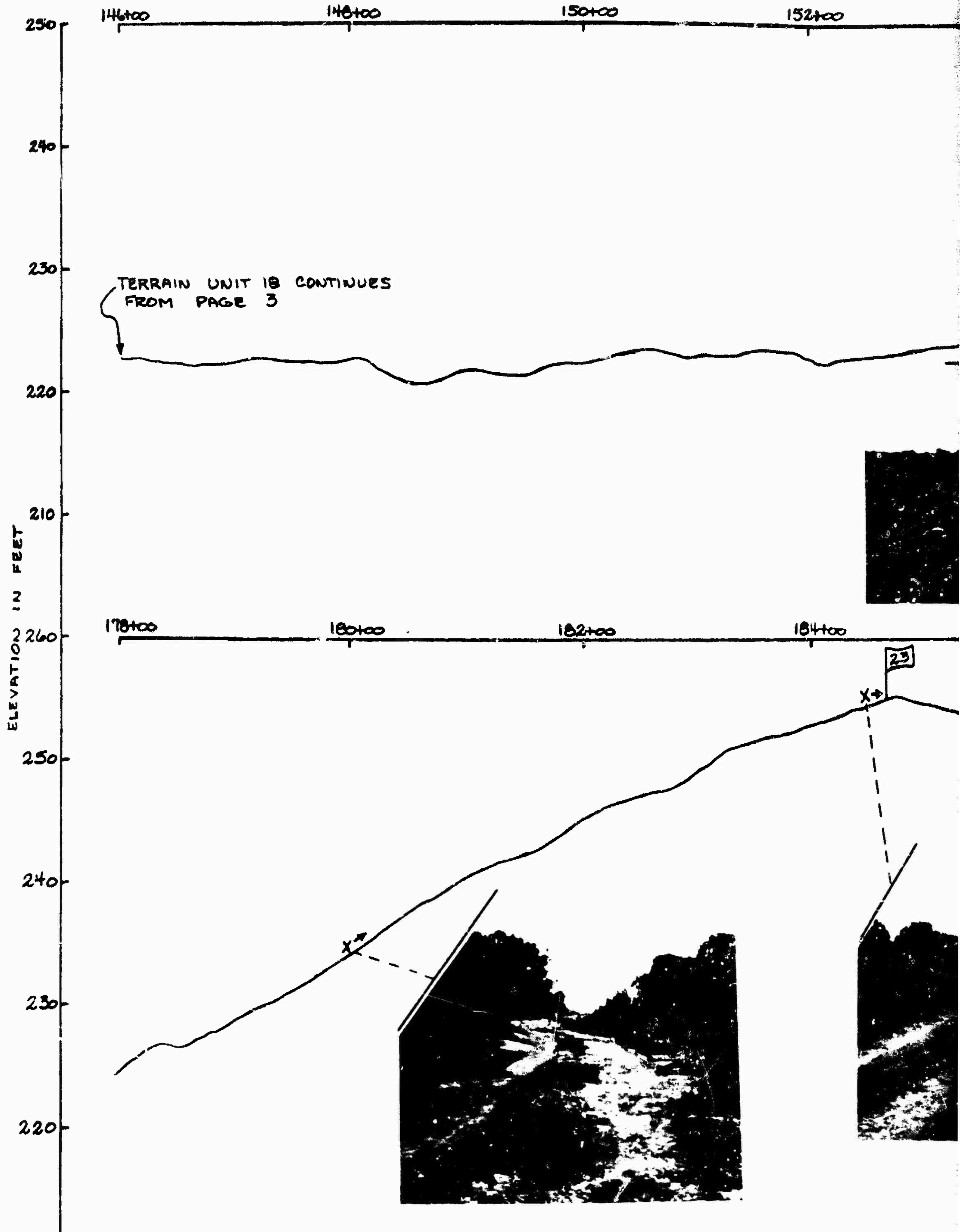

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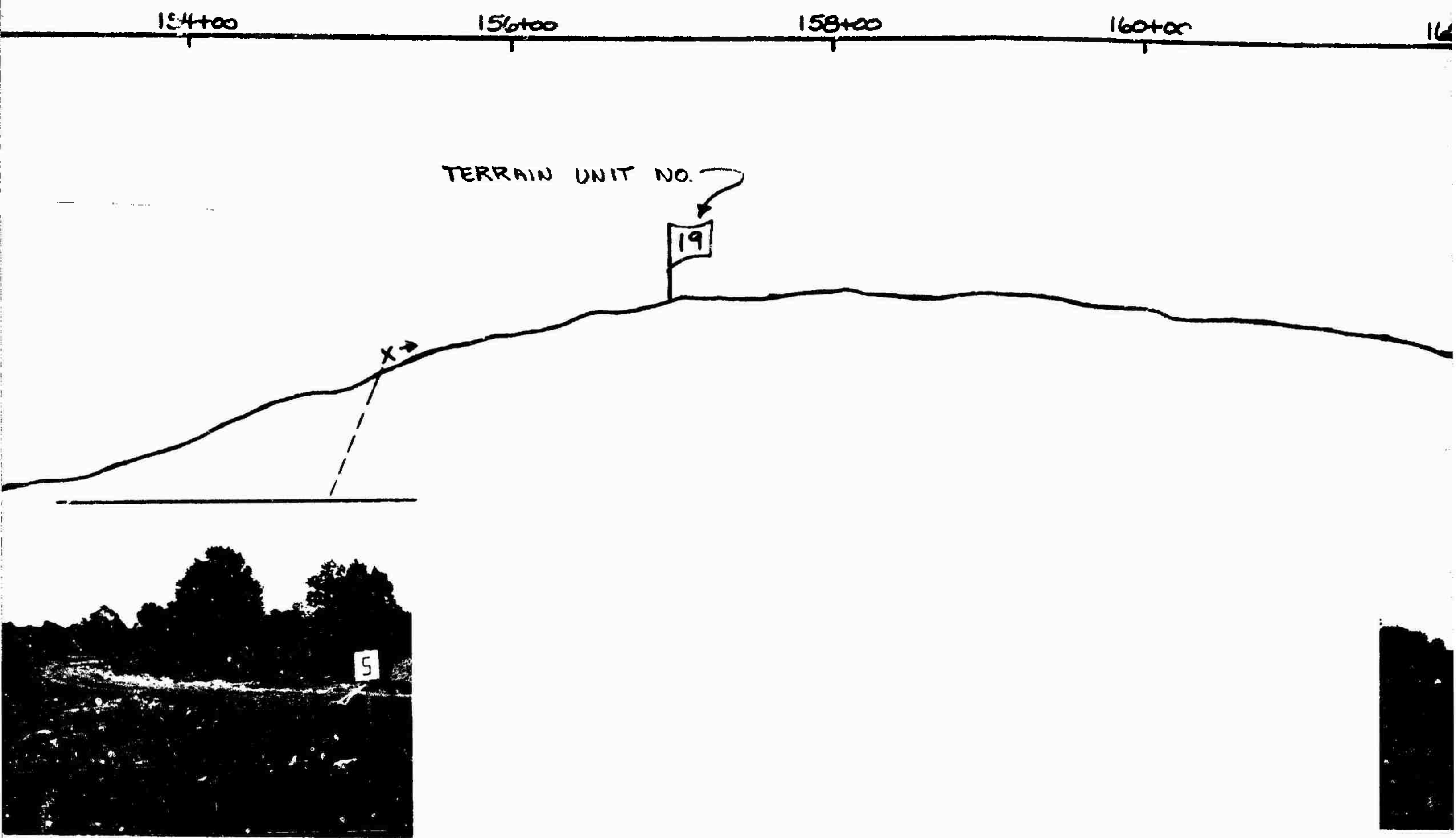
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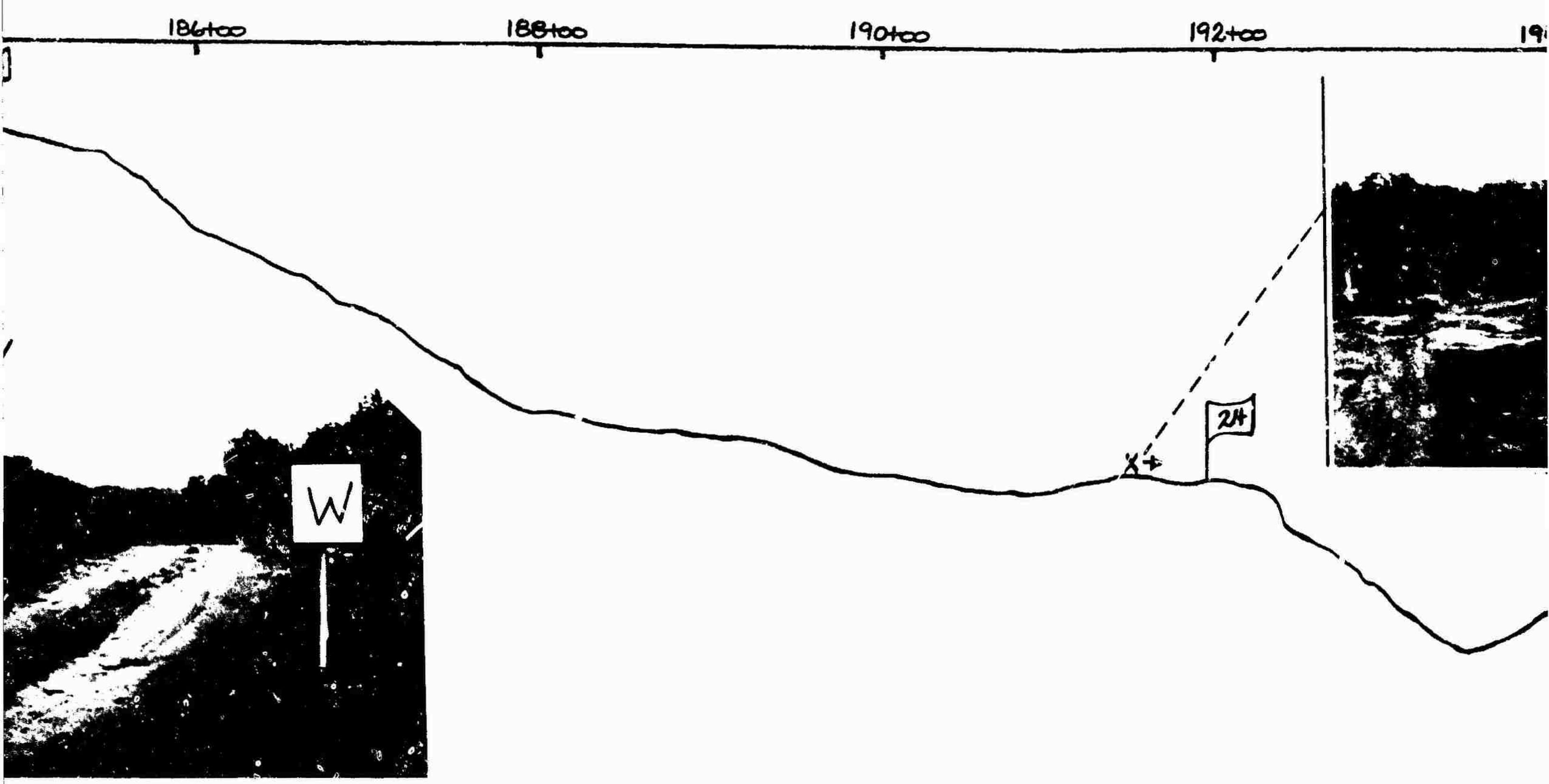
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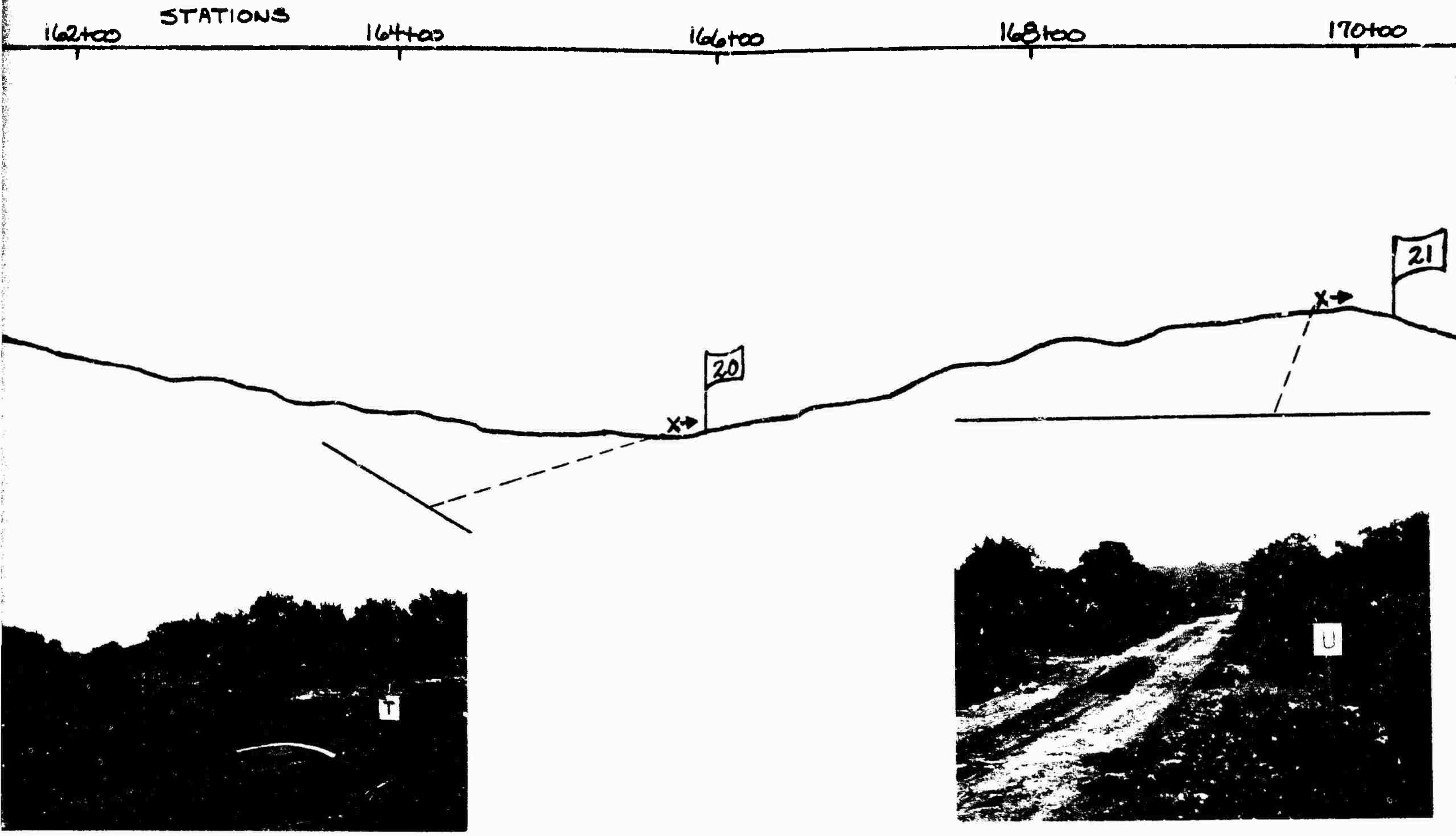
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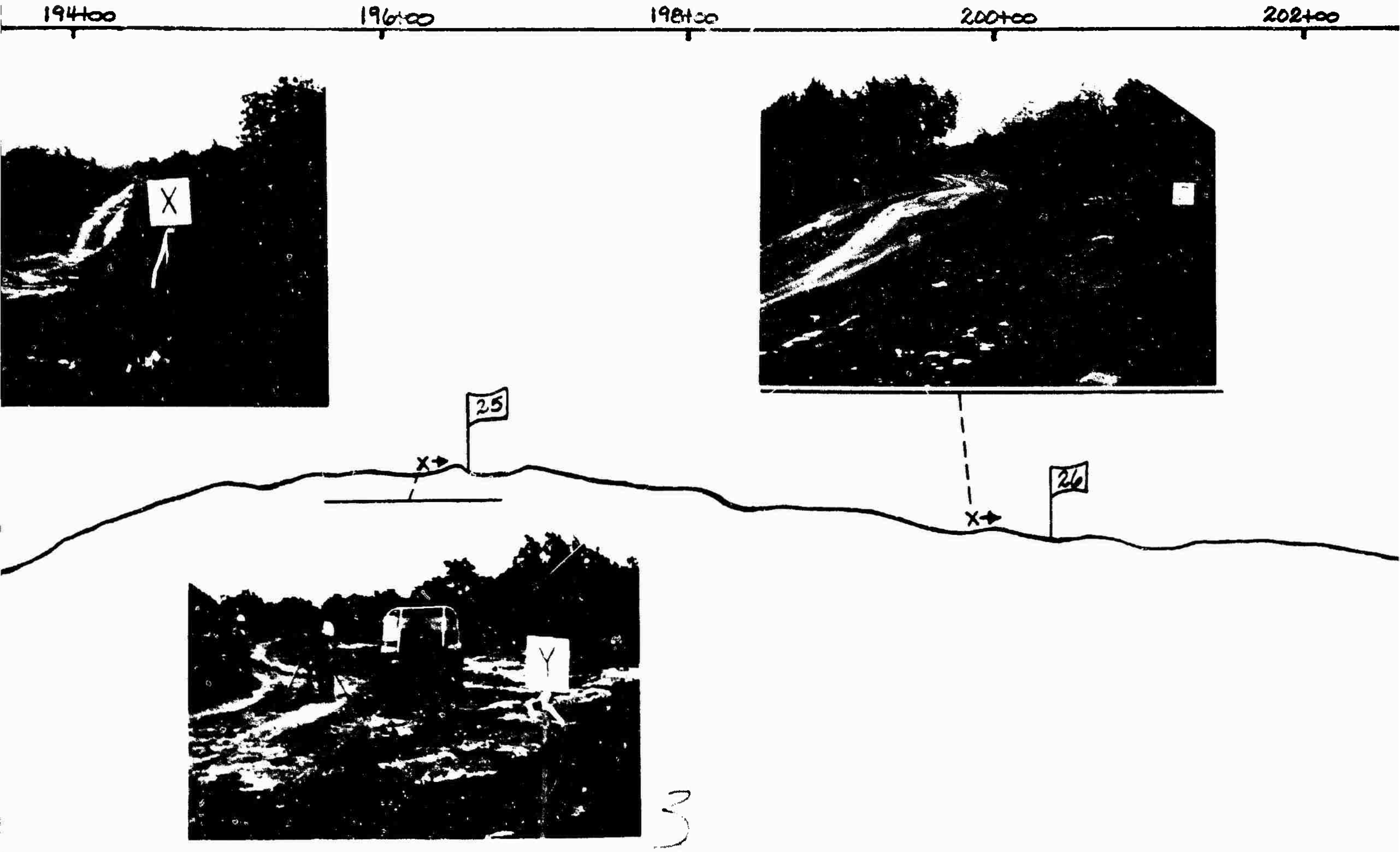
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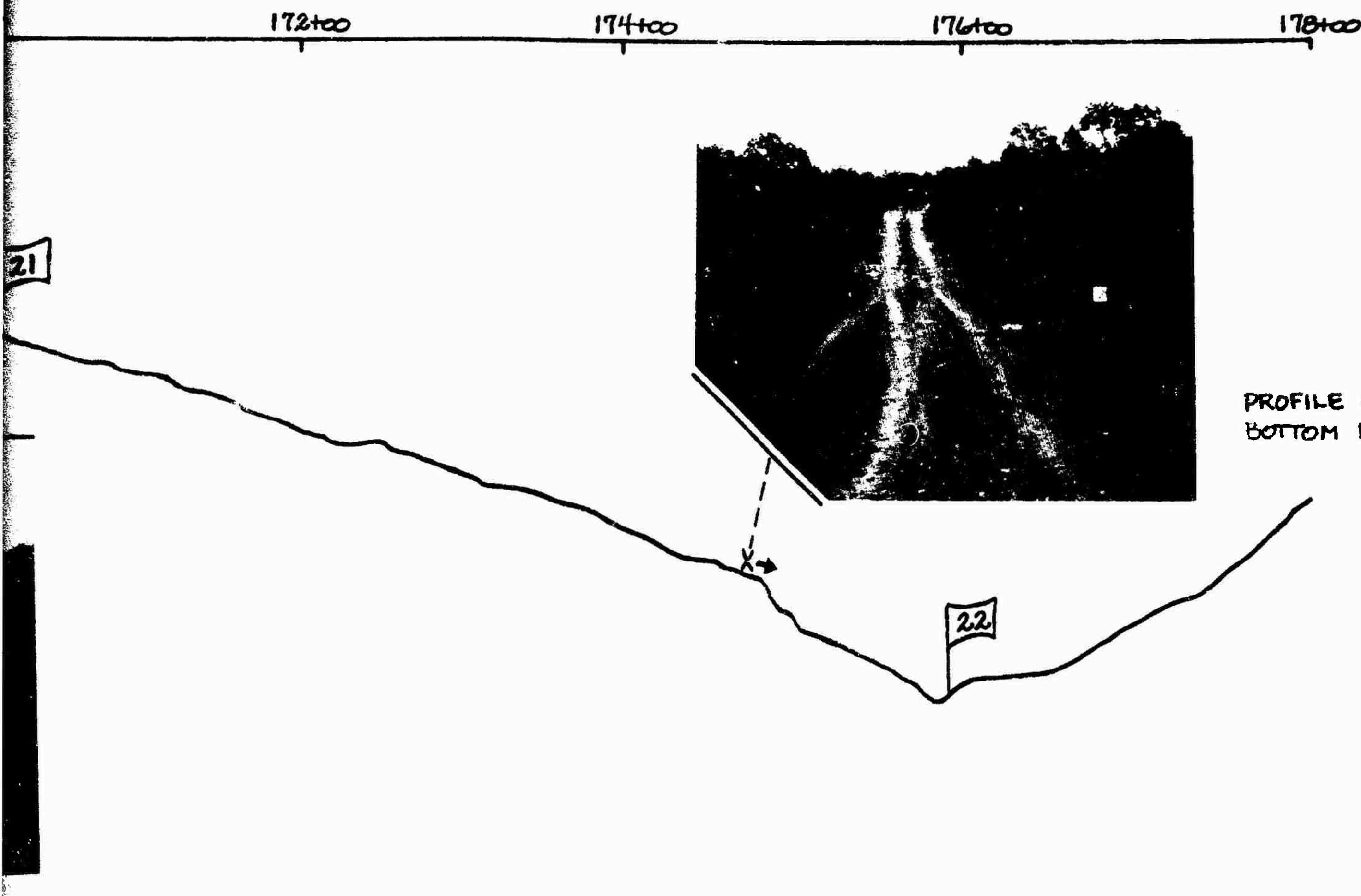

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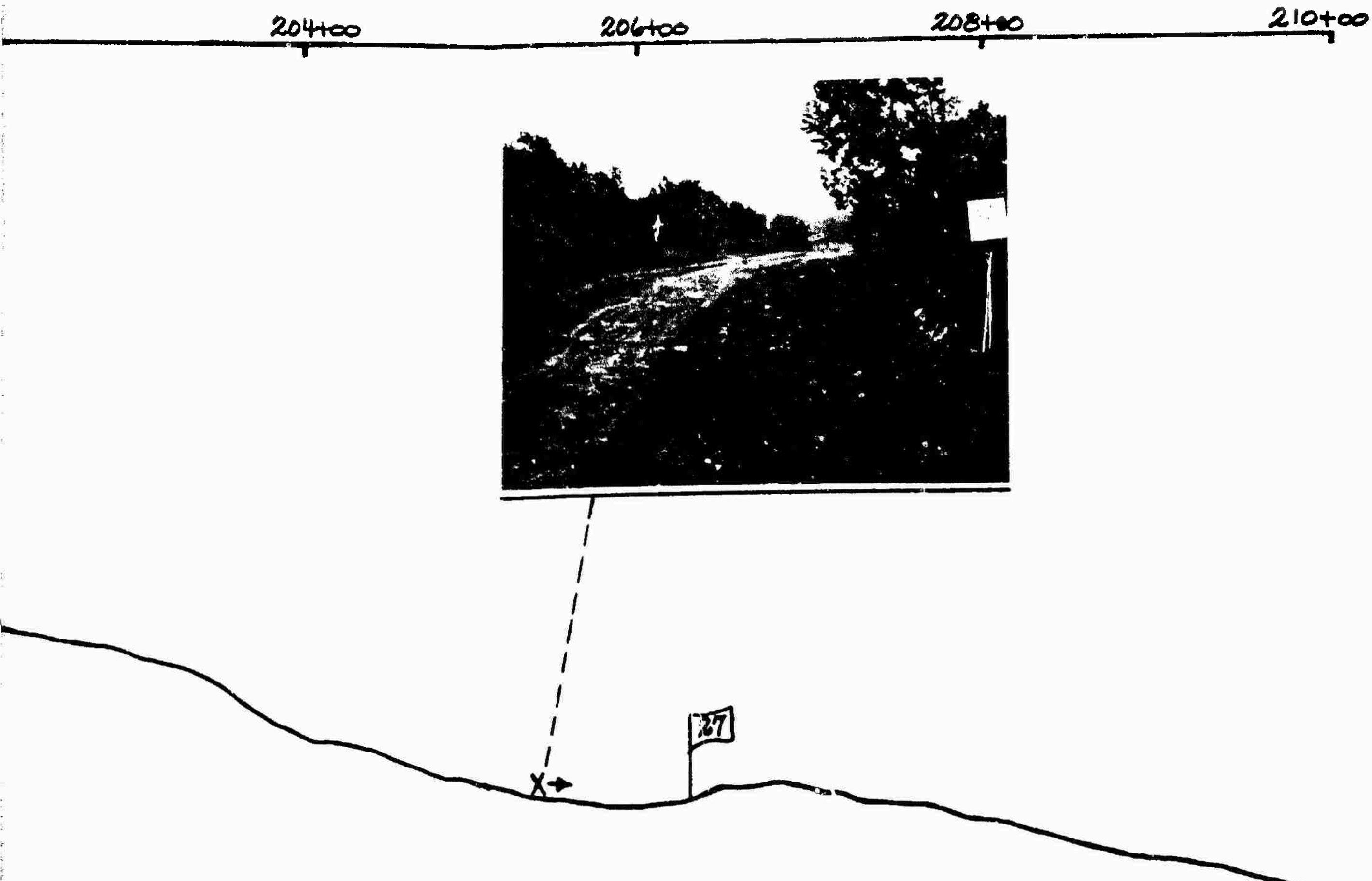

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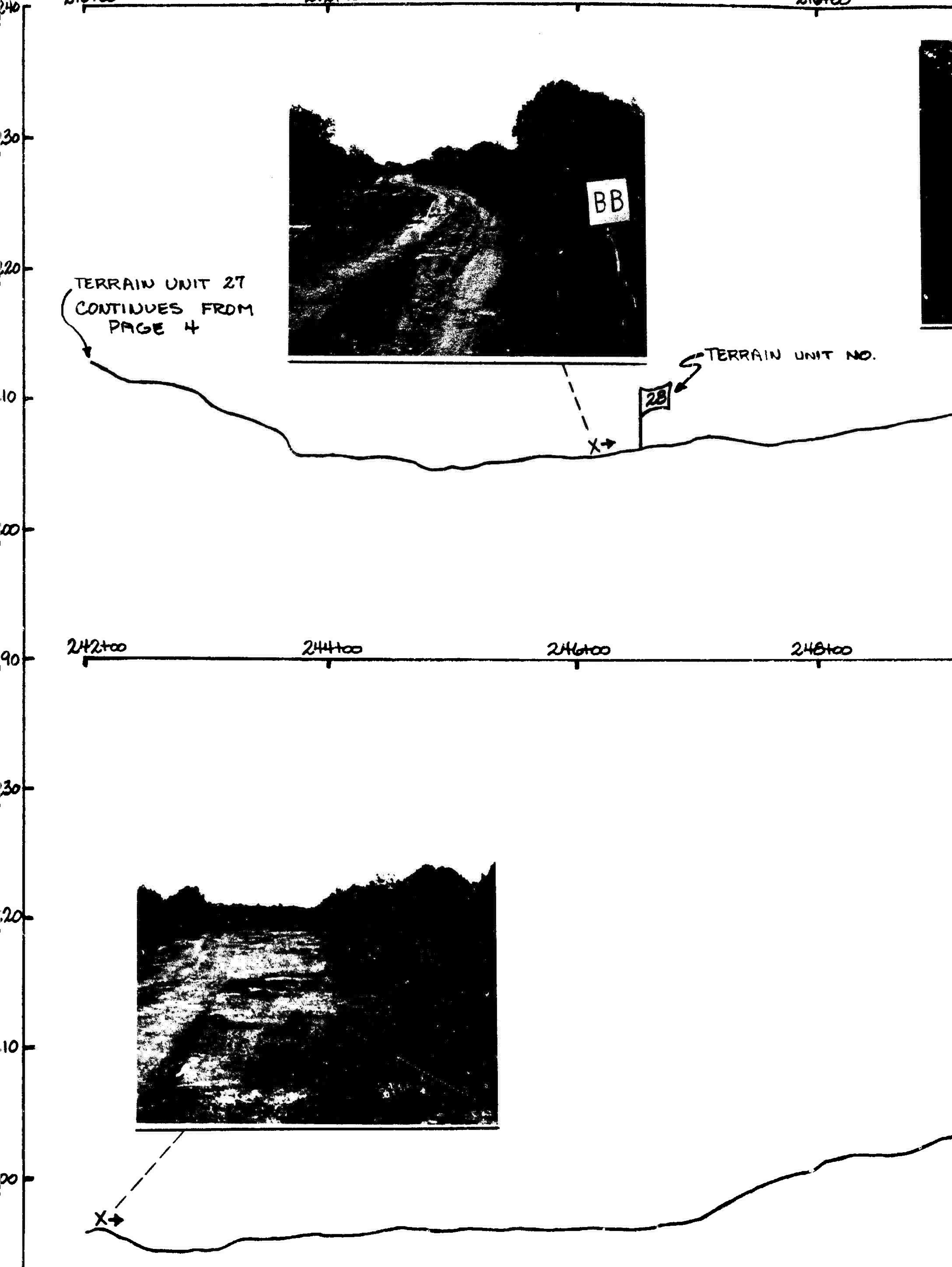

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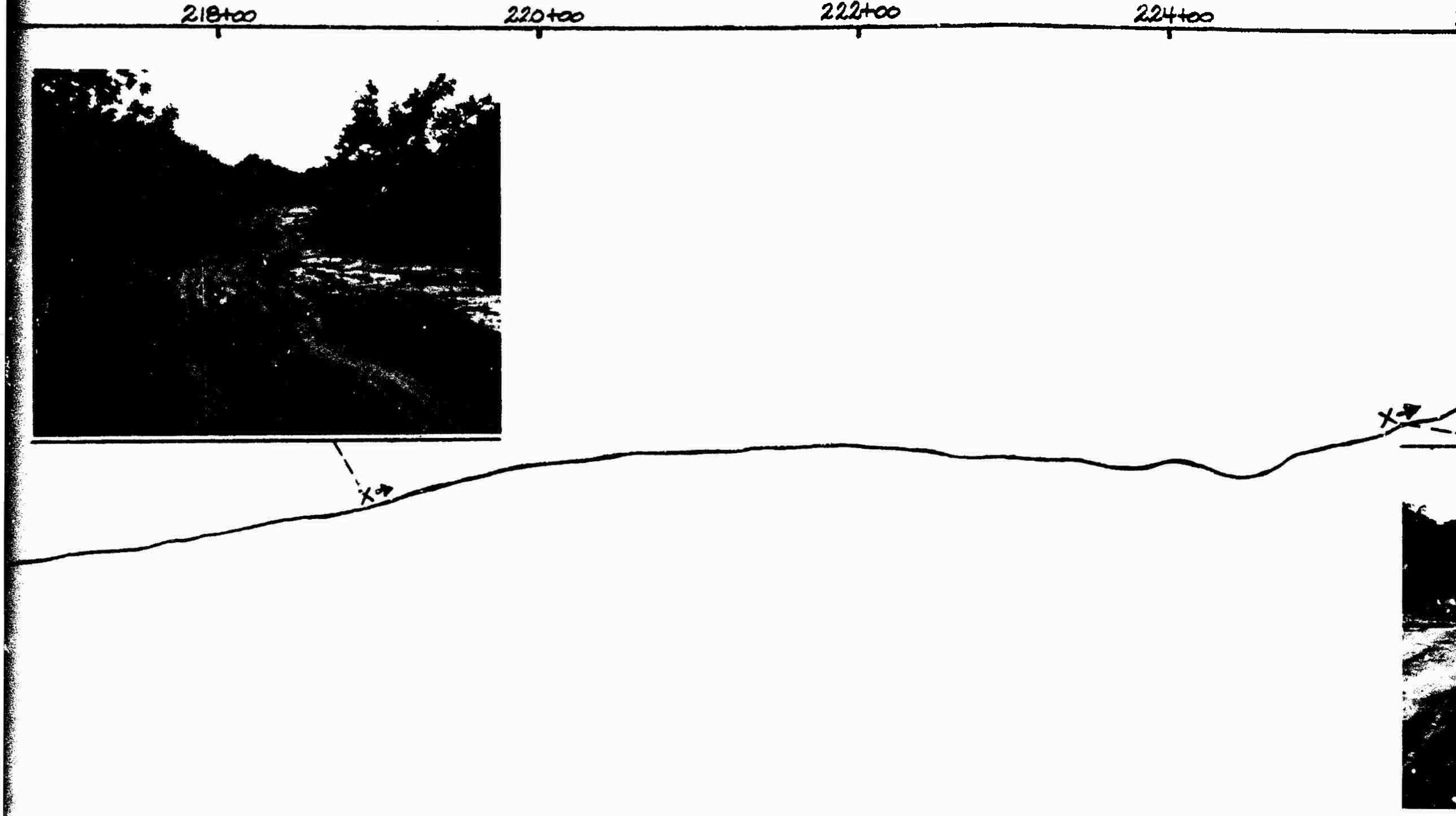
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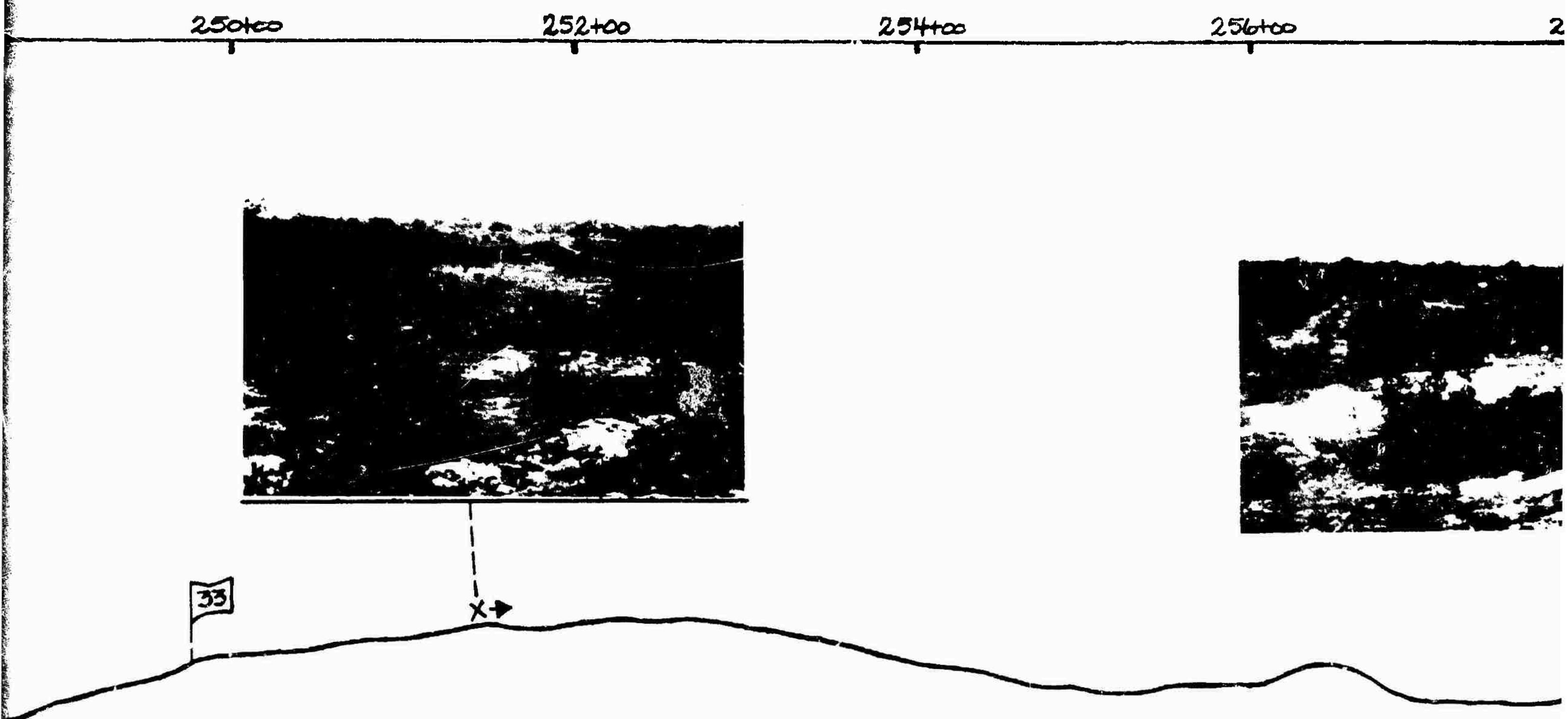
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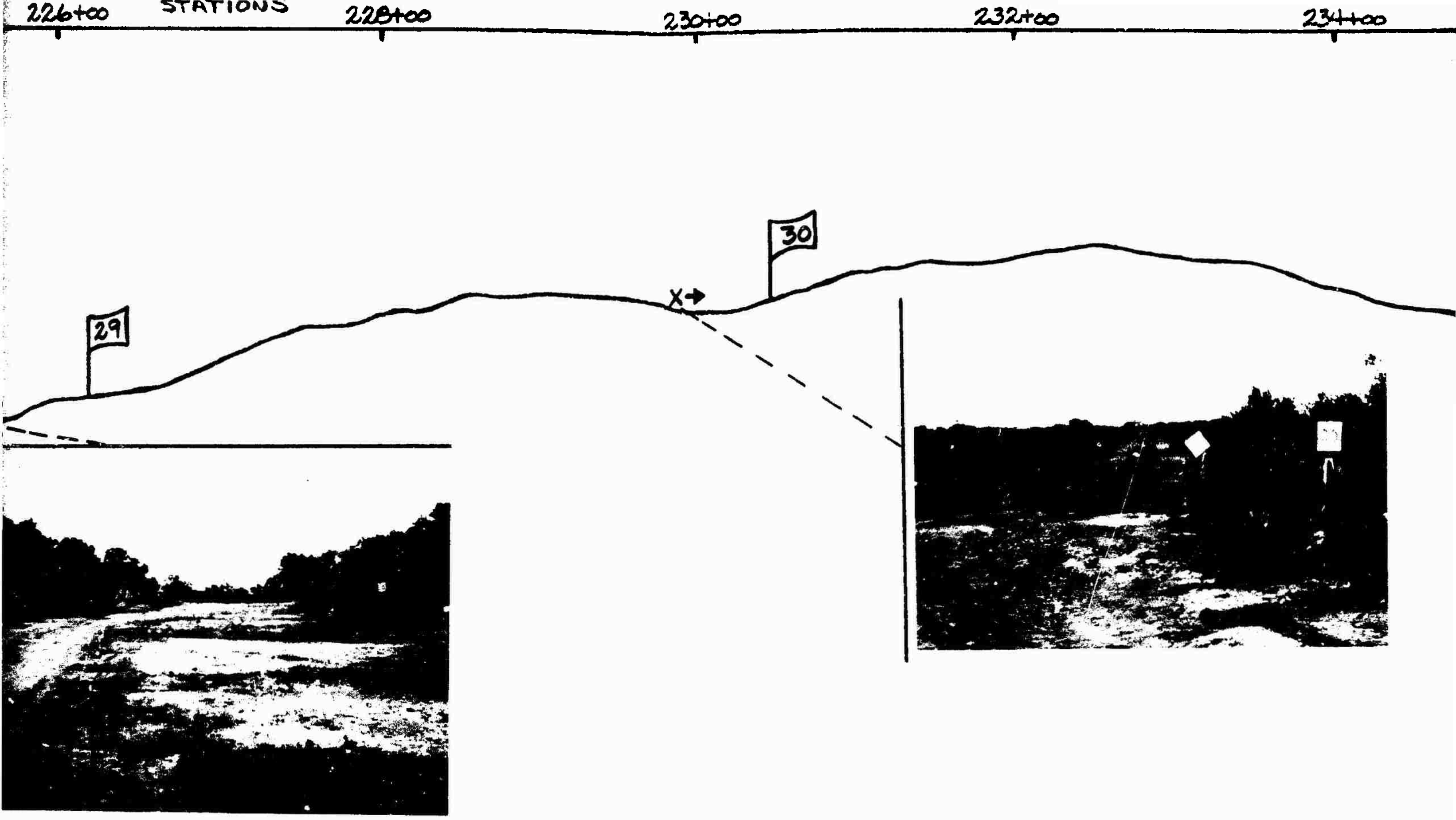
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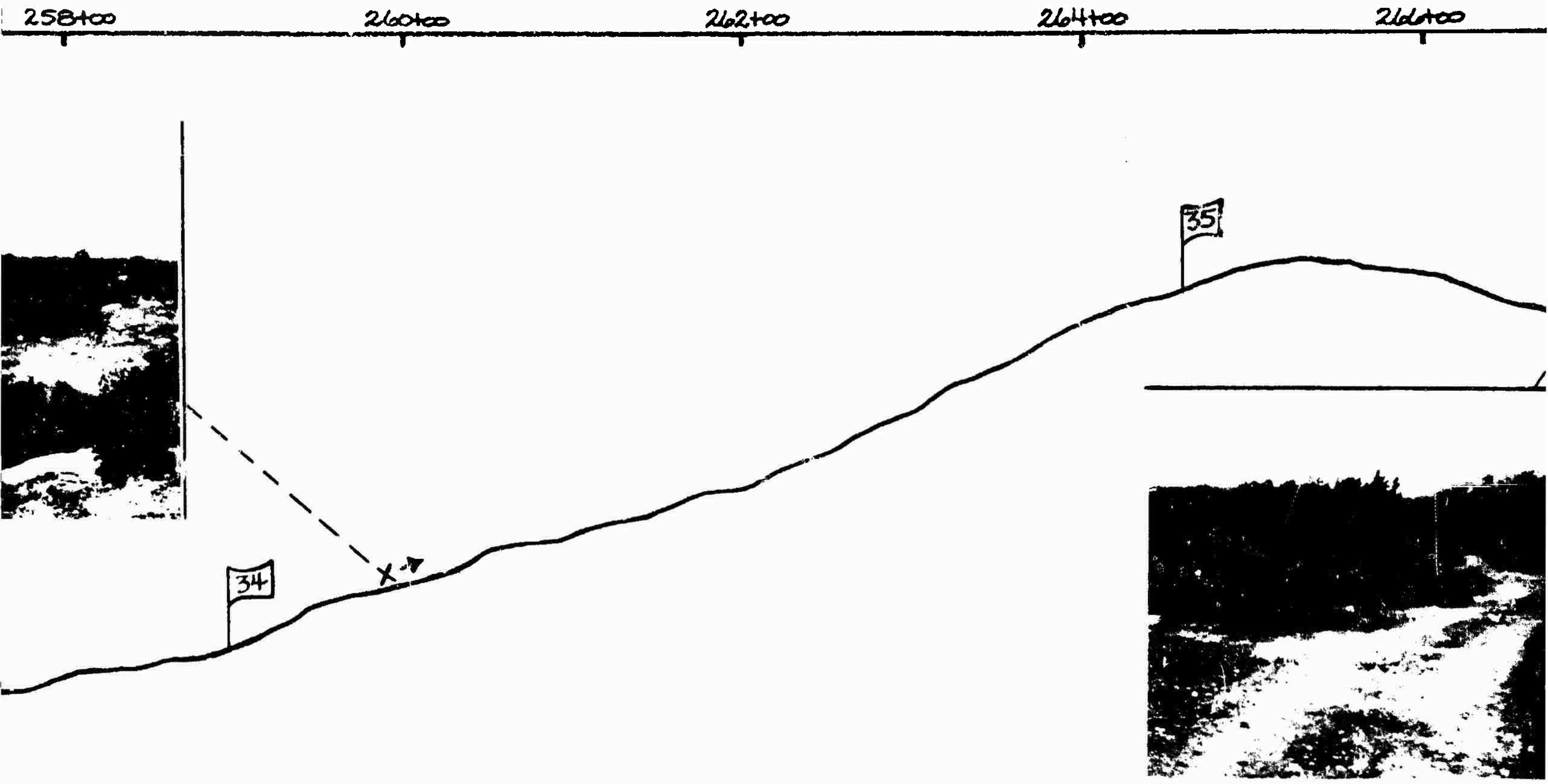
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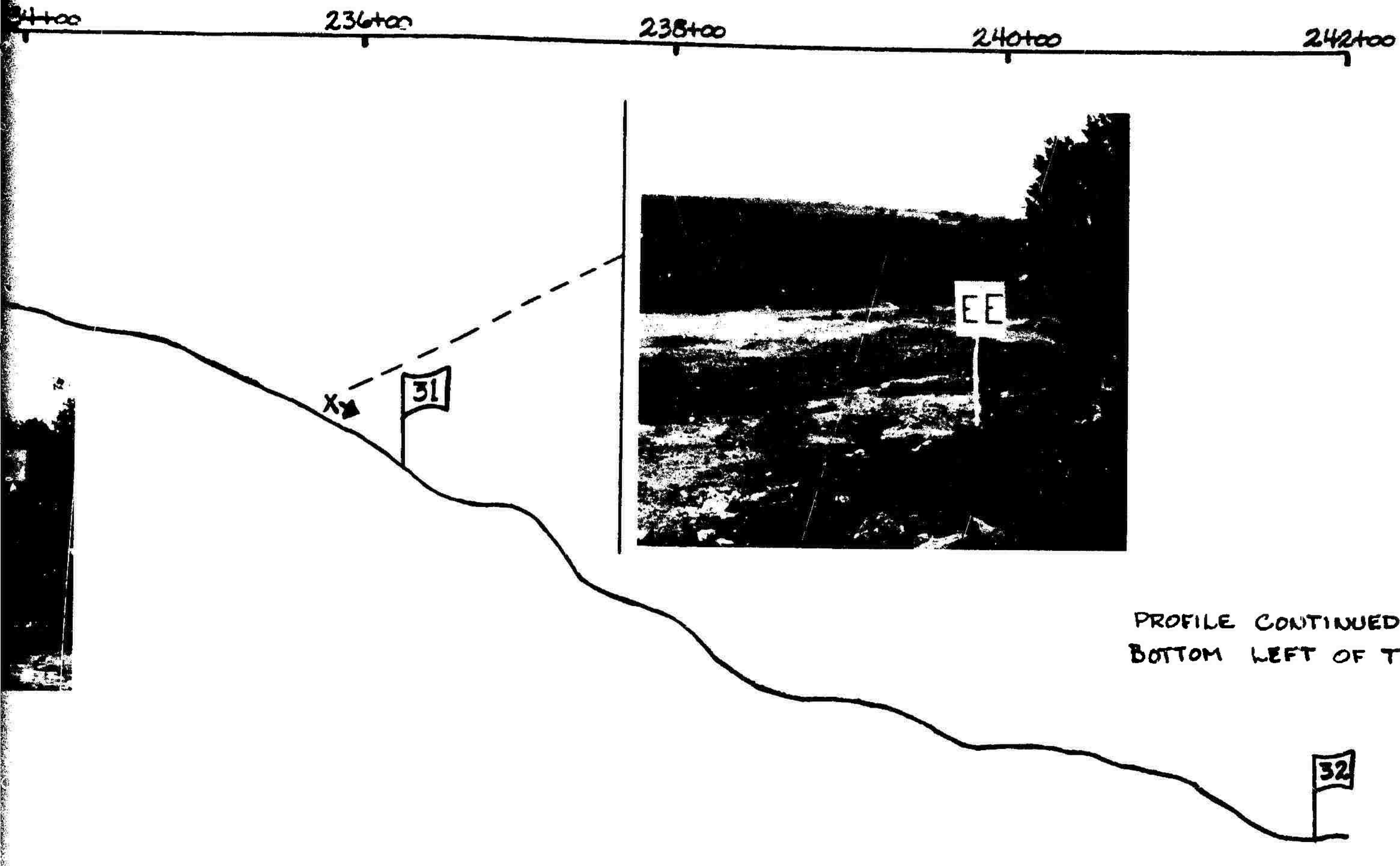

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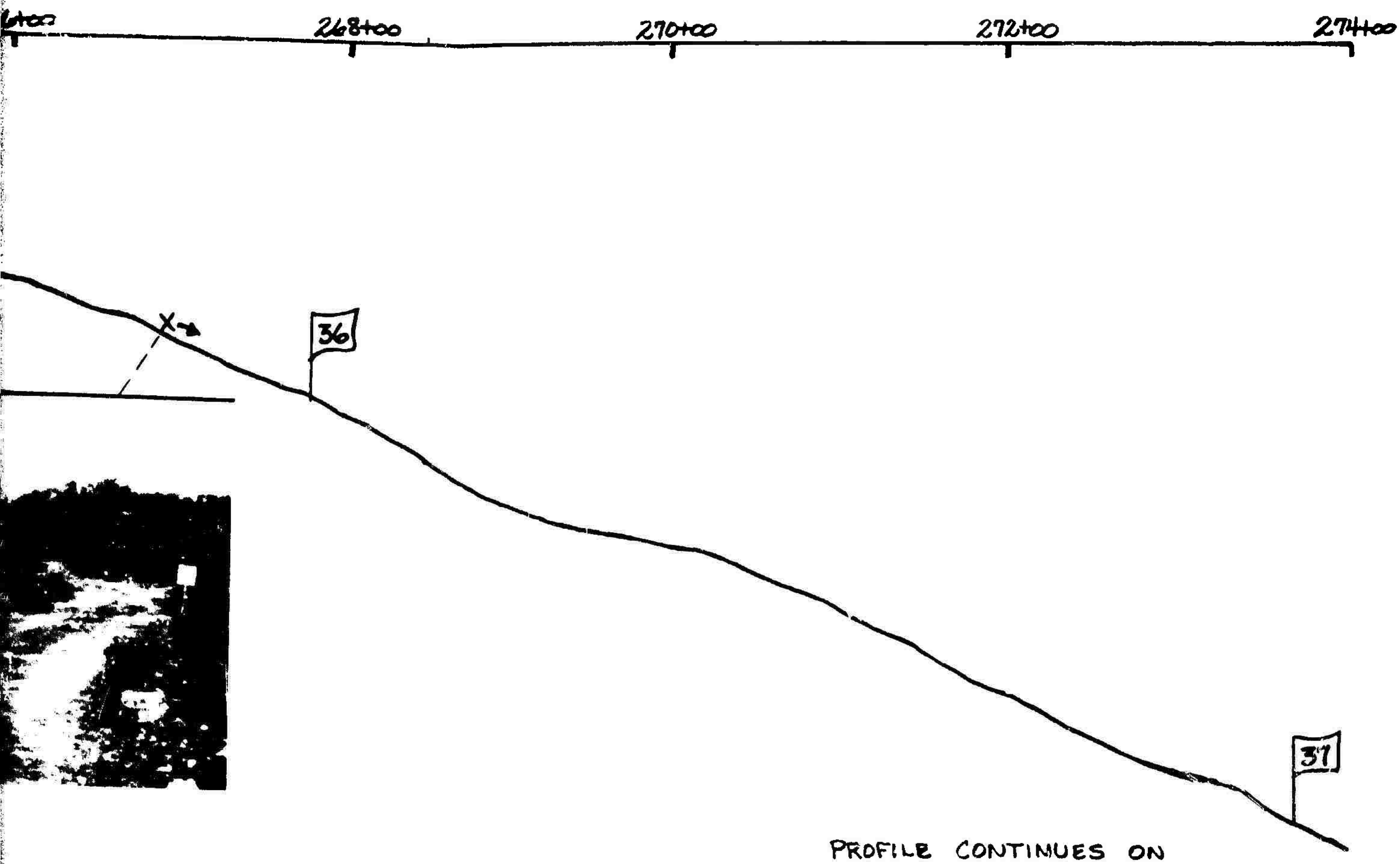

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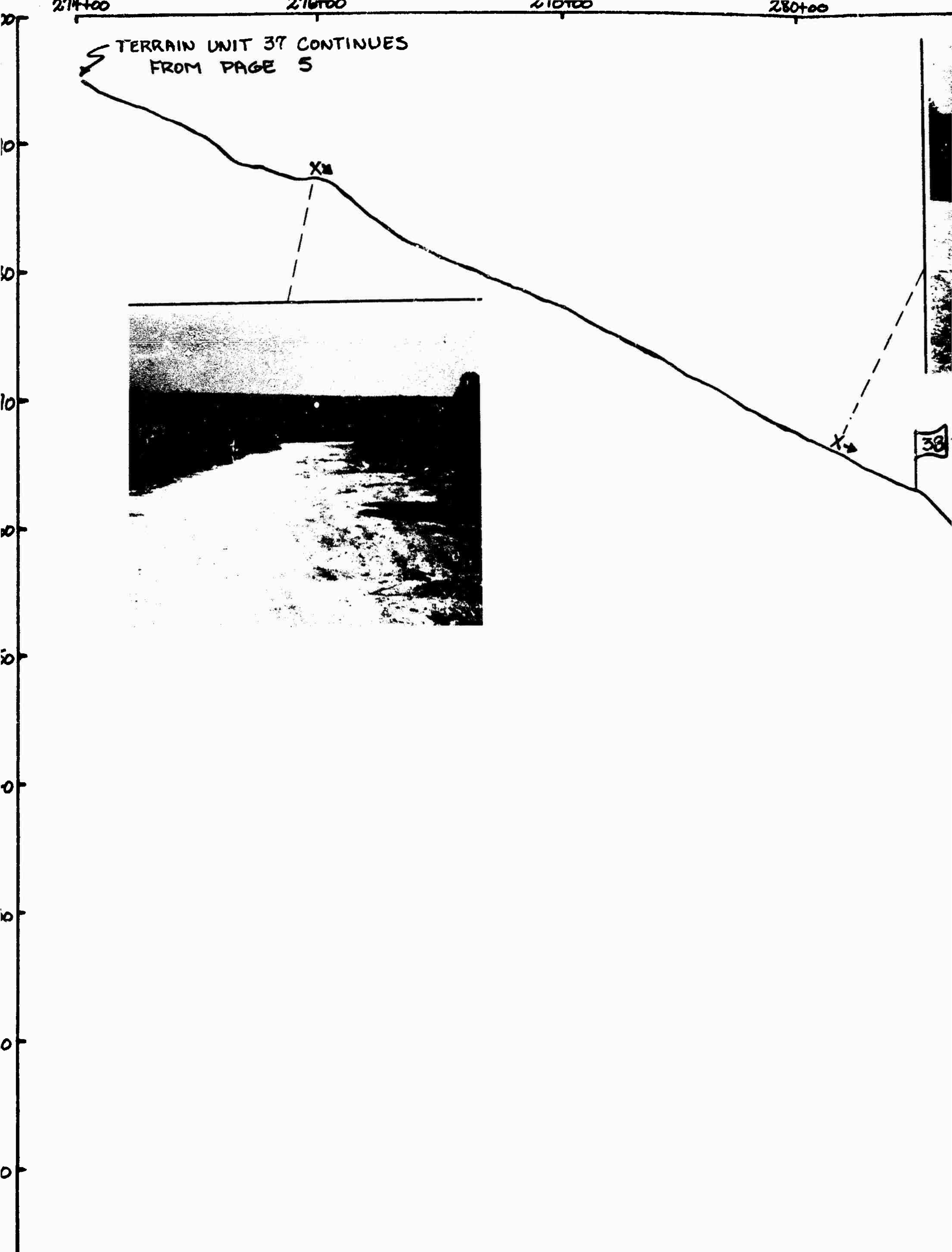
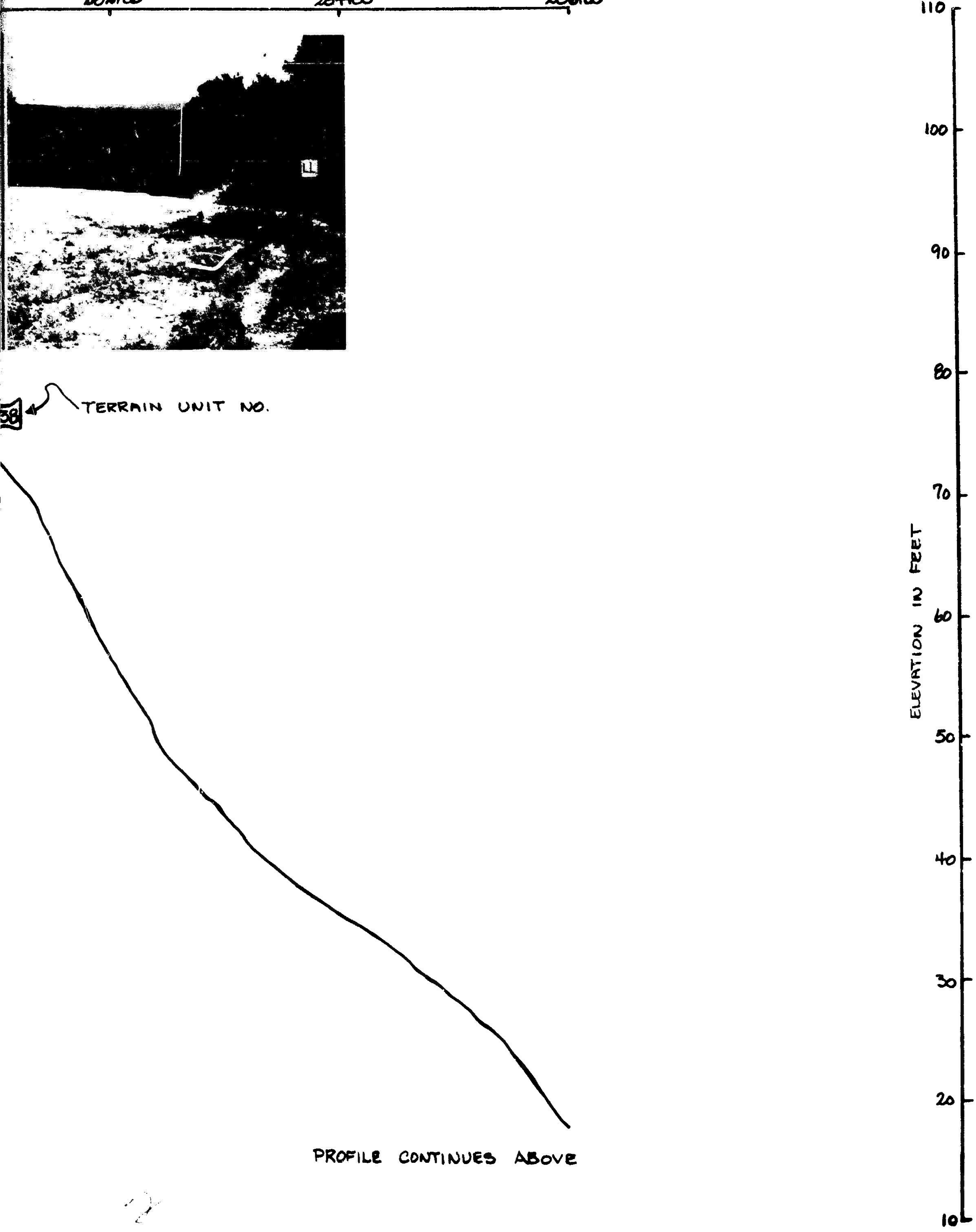


Figure 10 (sheet 6 of 8)



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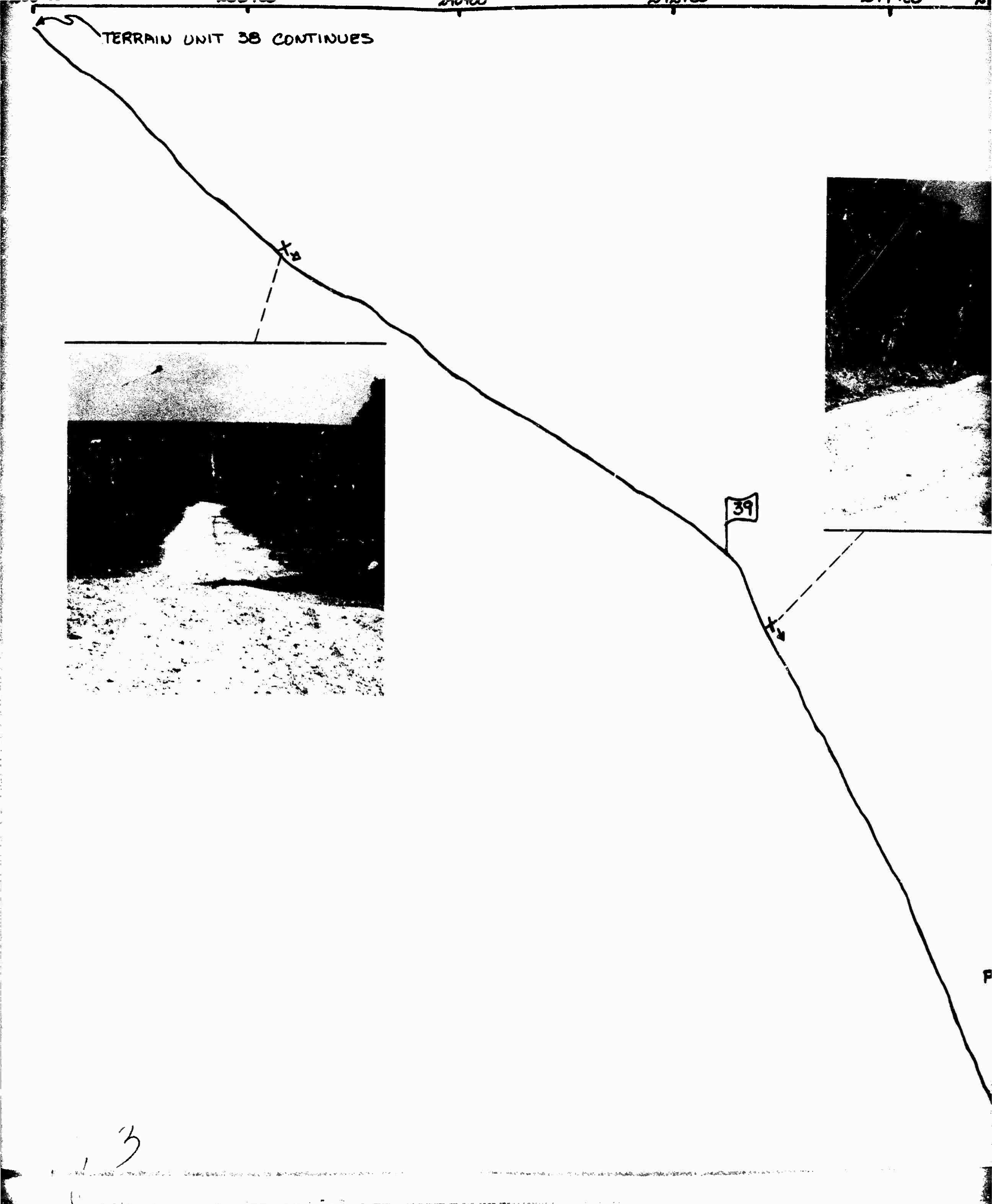
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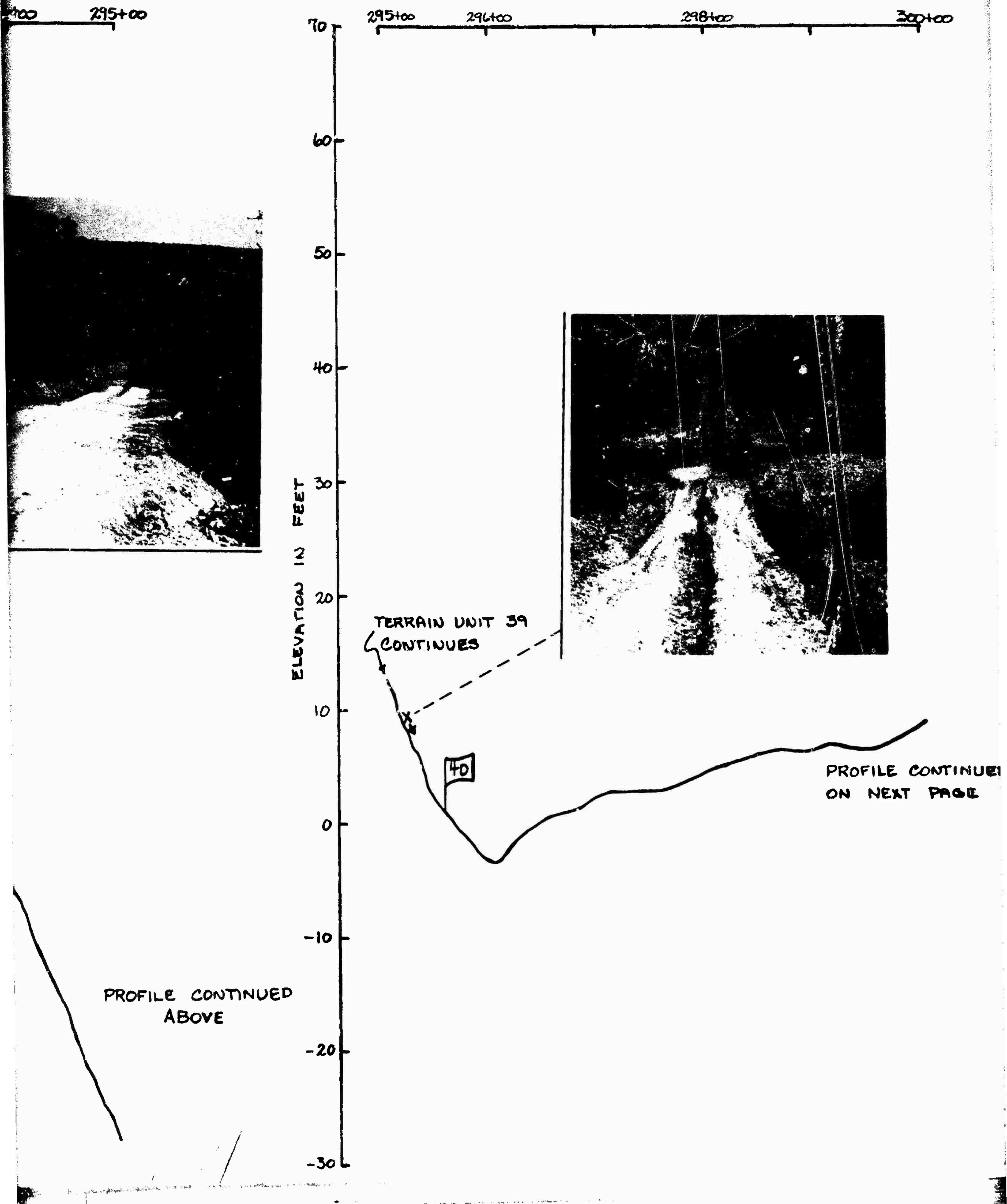

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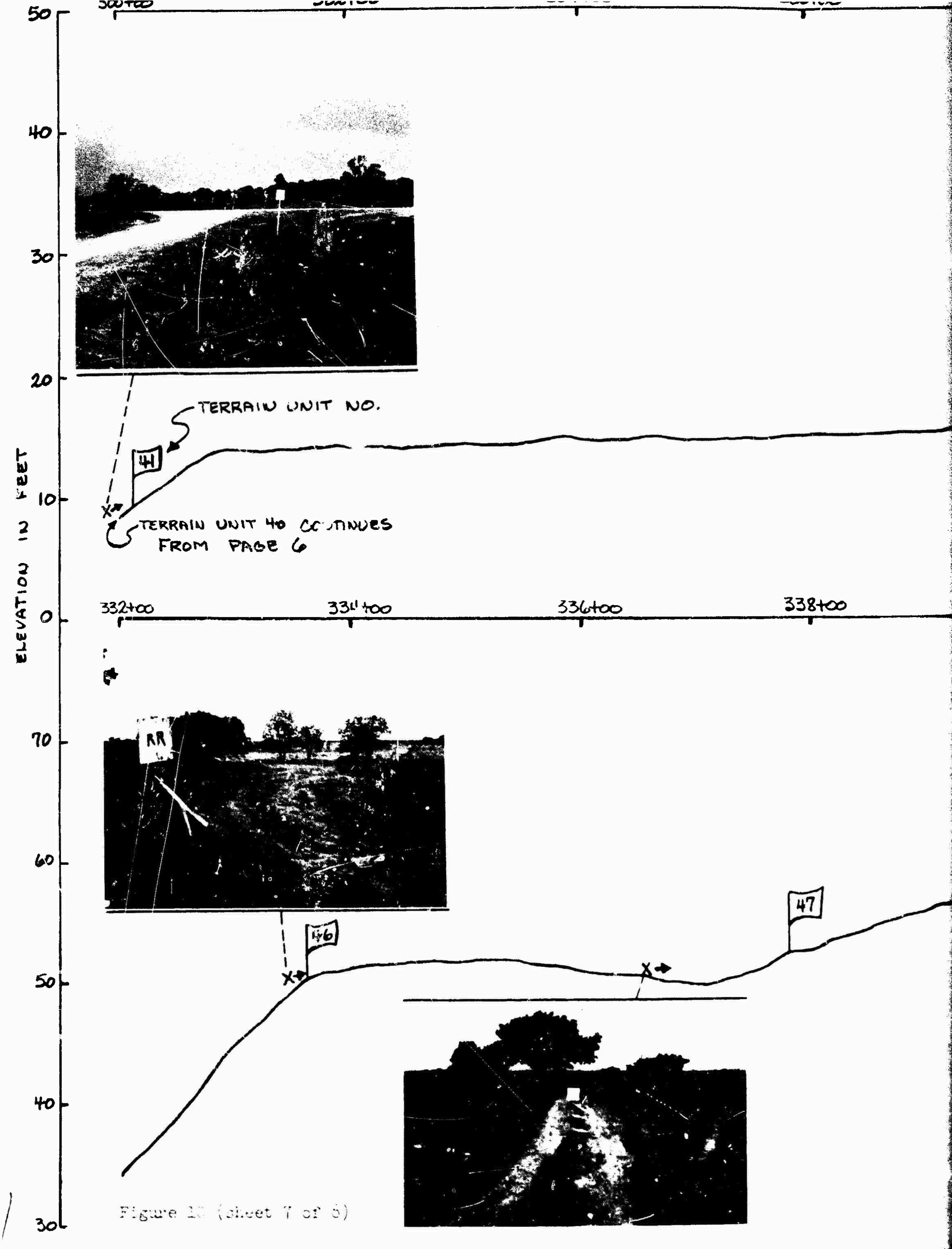

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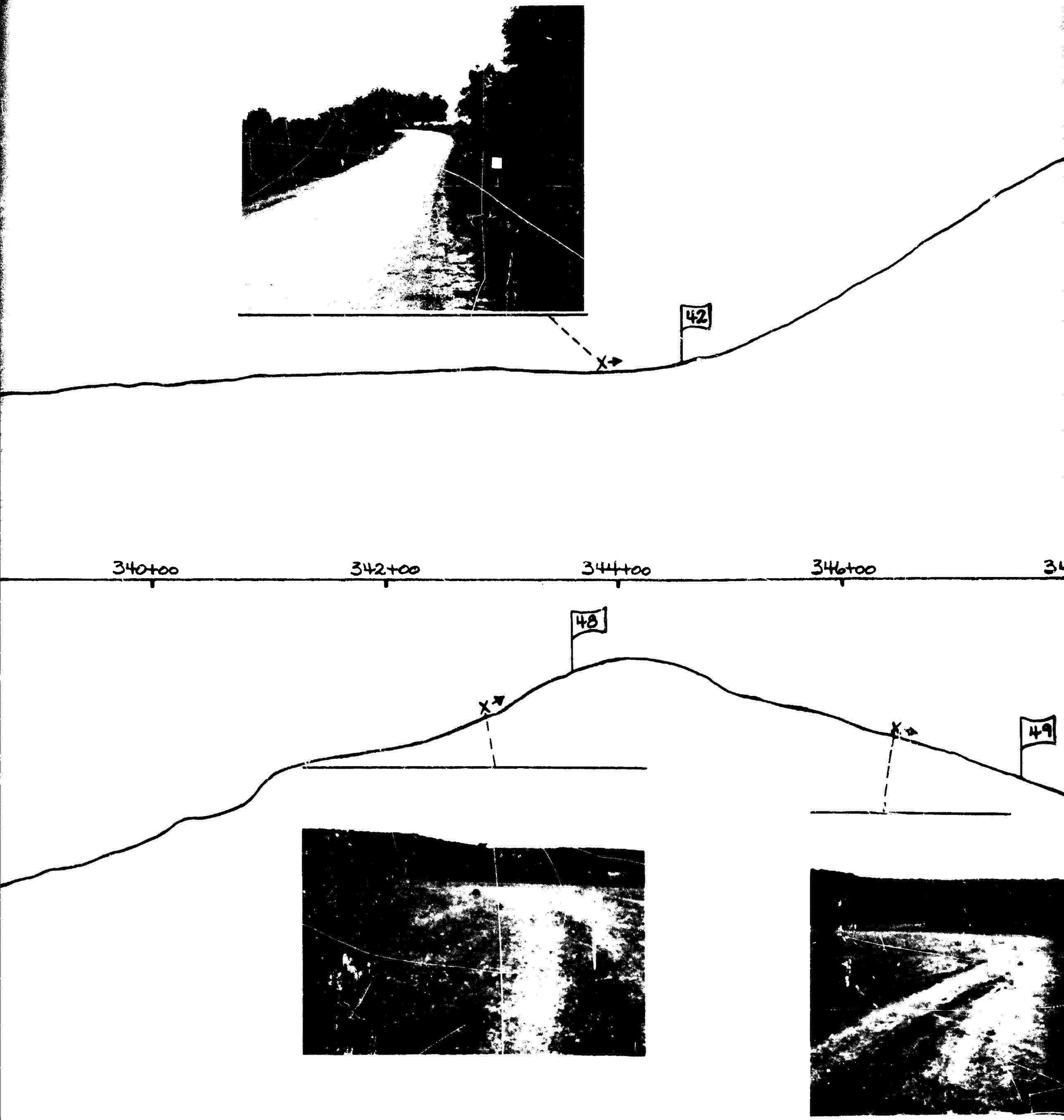

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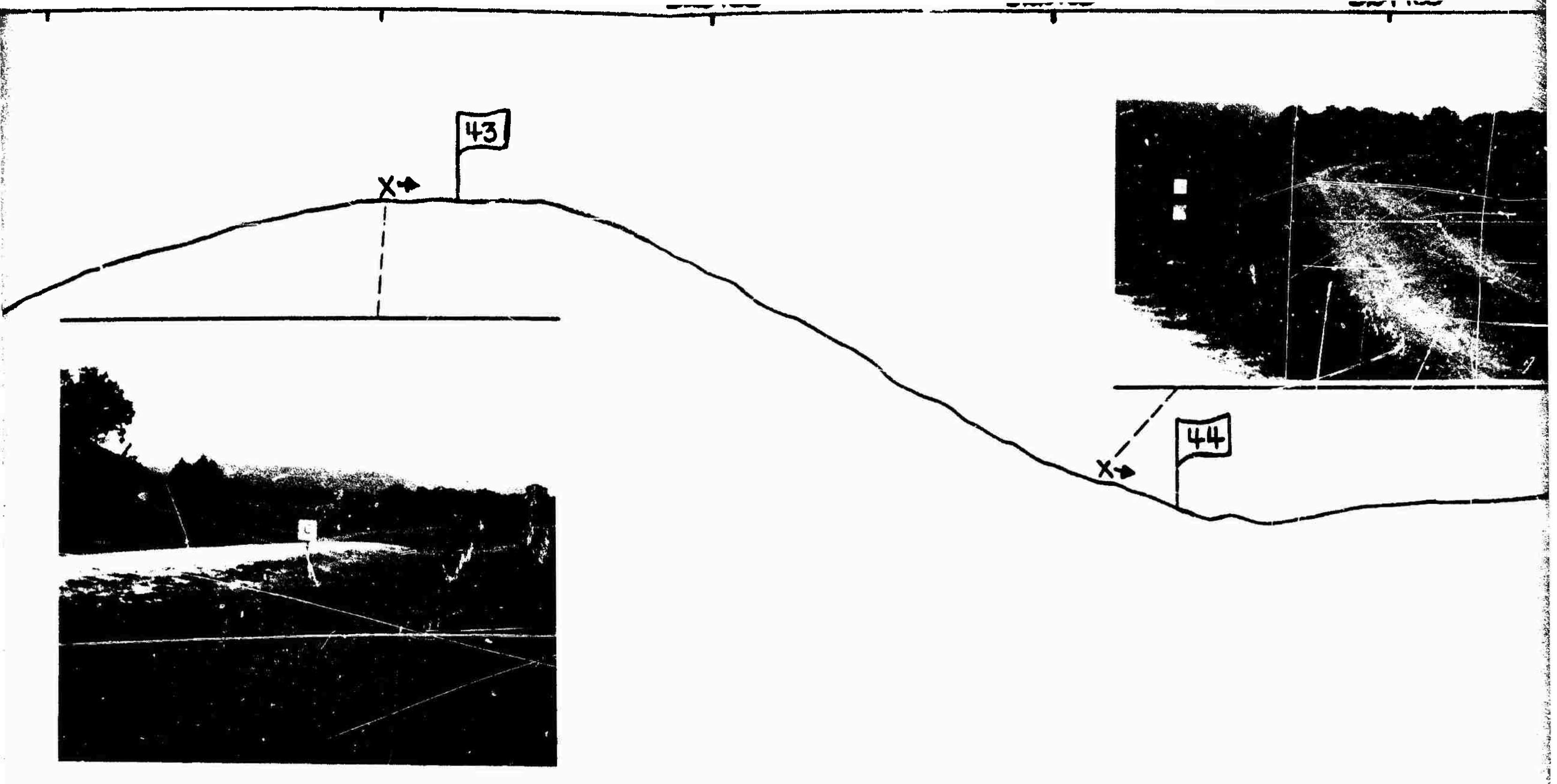

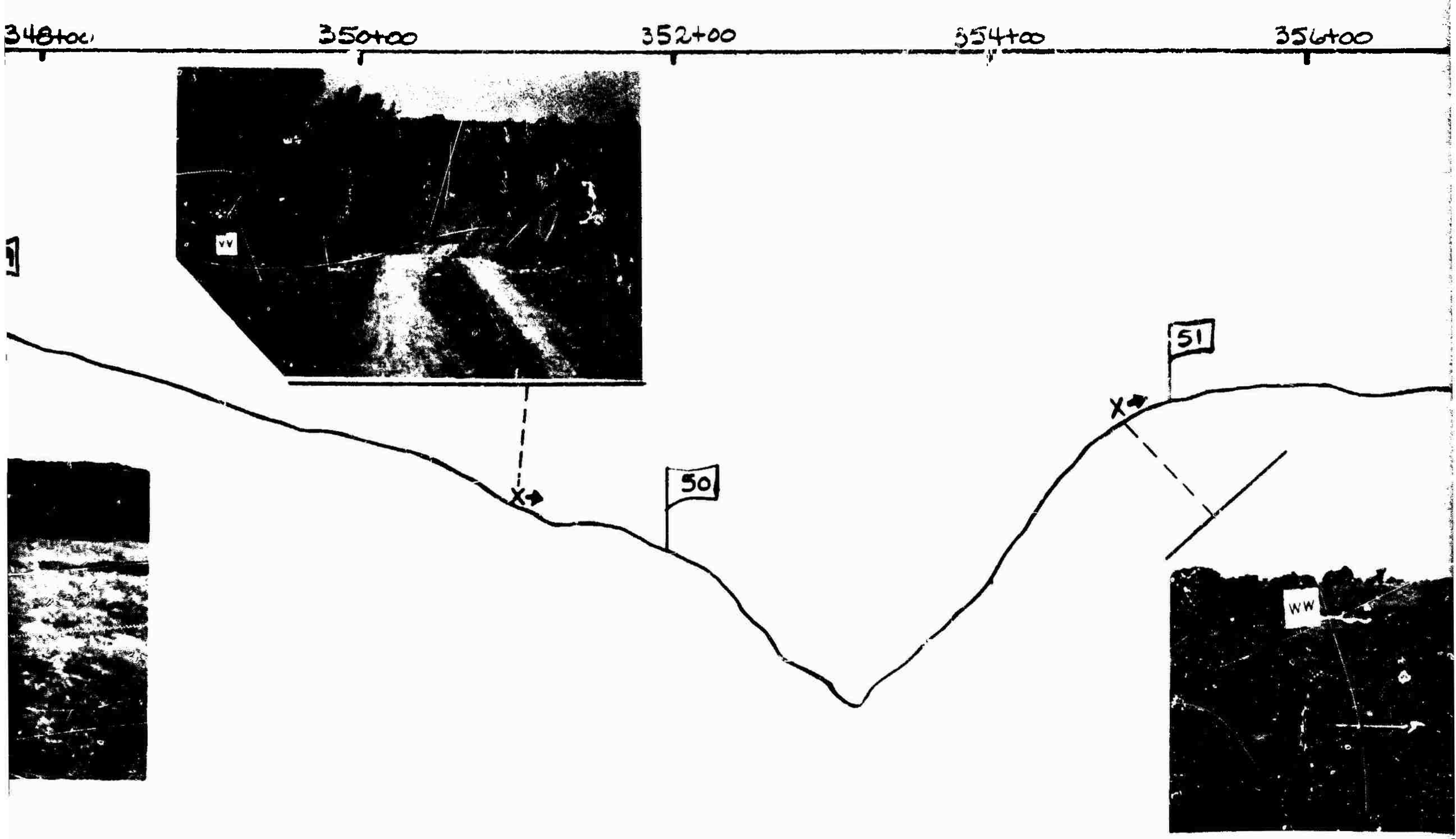

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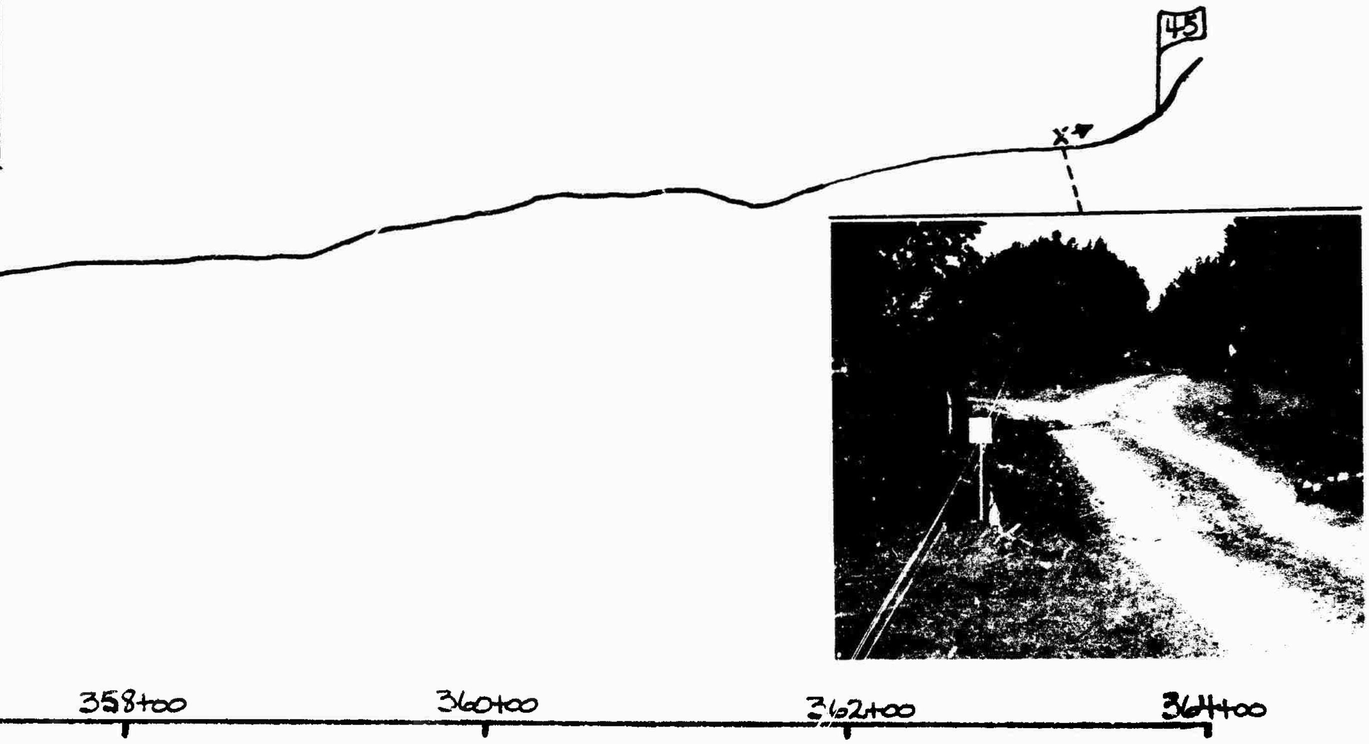

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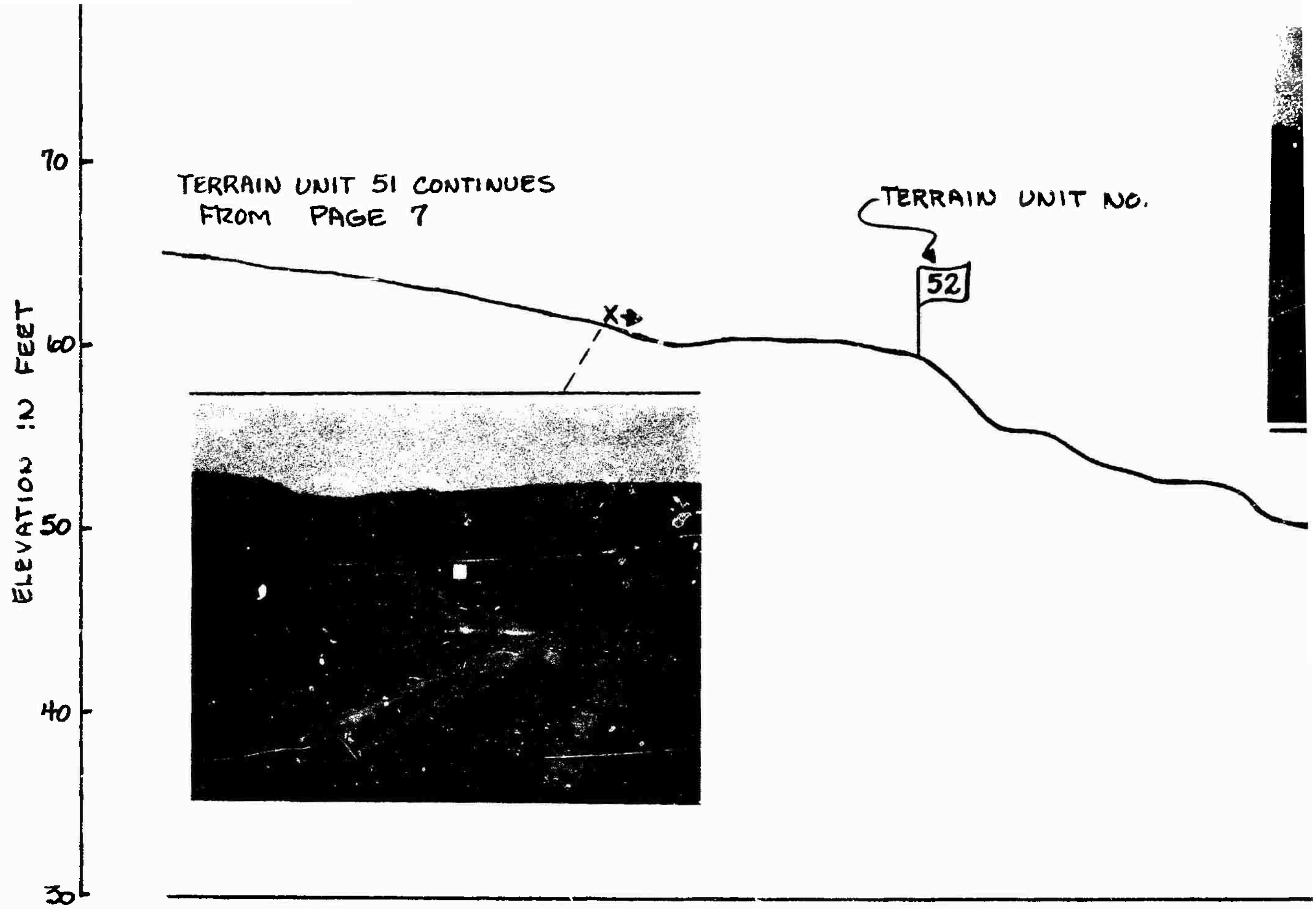
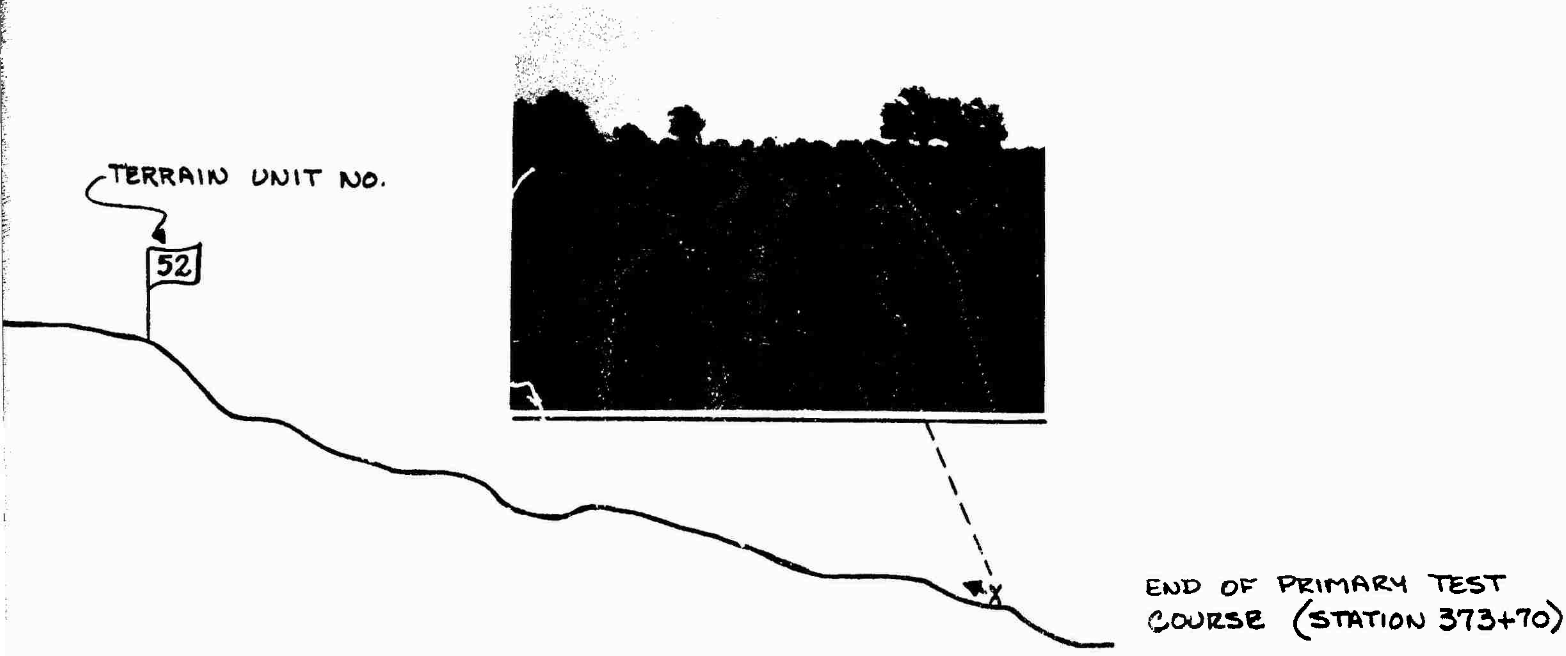


Figure 10 (sheet 8 of 8)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END OF PRIMARY TEST COURSE (STATION 373+70)

used for the final evaluation) maintained that he remained in contact with the seat at all times with the aid of the steering wheel.

19. Sand bags were used to load all the vehicles except the CJ5 at rated payload. Lead weights were required in addition to sand bags for this vehicle because of the small cargo area. Vehicles were weighed with portable scales at the test site.

20. Tire pressures were checked and adjusted as necessary before each traverse test and before and at intervals during the ride and shock tests. Tire pressures used during testing were those recommended by TACOM (Table 2).

Dynamics tests

21. Ride tests. Several tests were conducted with each vehicle over each ride test course at selected speeds ranging from a low of about 5 mph to the maximum safe speed. Speed was increased from test to test, usually in 3-5 mph increments, until the ride limit or the maximum control speed due to steering and handling problems was equaled or slightly exceeded.

22. Each test began with the vehicle positioned a sufficient distance from the beginning of the test course to enable the driver to reach the desired test speed before entering the test course. This speed was then maintained at a nominally constant level (using the vehicle's speedometer) throughout the length of the course. An observer rode in the vehicle during each test and selected the test speed, operated the ride meter, and narrated details of the tests on the magnetic tape.

23. During these tests, data were also taken to define motions in the cargo bed.

24. Obstacle-impact tests. Four or five tests were conducted with each vehicle over each obstacle (4-, 6-, and 8-in. heights) at relatively constant speeds from 5 mph to the maximum safe speed to characterize the vehicle shock response.

25. Each test began by positioning the test vehicle a sufficient distance from the 100-ft timing stake (Figure 9) so that the driver could reach the desired test speed before reaching the stakes. He then

maintained that speed (using the vehicle's speedometer) until the vehicle had completely crossed the obstacle. (Obstacle-impact speed was computed from the distance and elapsed time between passage of the stakes and obstacle contact.) An observer rode in the vehicle during each test, selected the test speed, operated the ride meter, and narrated the pertinent test activities.

Traverse tests

26. Each of the 20 vehicle configurations was run over the traverse test course by each of three selected military drivers and one experienced WES driver (80 test runs). Prior to traverse testing, all drivers were asked to familiarize themselves with the vehicles they were to drive. Each military driver was then allowed to drive one pass over the traverse test course at a moderate speed accompanied by a WES observer, who pointed out dangerous locations and also determined if the driver seemed sufficiently trained for testing. The test drivers and their experiences expressed in miles driven prior to this test program were:

Driver	Rank	M151A2	Commercial 1/4-ton Off-Road Vehicles
White	E-4	3,000	1,000+
Shaw	E-3	8,000	1,000+
Leigh	E-4	3,000	1,000+
Nixe	E-2	0	100
Ellis	E-4	1,000	0
Campbell	E-3	200	1,000+
Allison	E-3	9,000	1,000+
Baker	E-4	15,000	1,000+
Lewis	Civilian	3,000	50,000+

27. Just prior to testing, each driver was instructed to drive the course at the maximum safe speed, considering himself, the observer, and the cargo. He was told that the WES observer was in command of the vehicle at all times but would make no decision as to how the test course should be driven, except to tell the driver to slow the vehicle to a controllable speed if the driver began to lose control. In the

interest of safety, the driver was also instructed to limit his speed on the secondary road to 40 mph. The driver was also instructed to enter the first road unit at 40 mph and to continue along the traverse, adjusting his speed as necessary to obtain a maximum safe speed for the traverse.

28. The WES observer in the vehicle during traverse testing also operated the ride meter and narrated pertinent occurrences. The driver and observer commented on the test activities at the end of each traverse test.

Test Data Collected

Ride tests

29. The principal data for the ride tests were the vertical accelerations at the driver's seat. Fore-to-aft and side-to-side accelerations at the driver and cargo areas and vehicle speed were also measured. The acceleration signals on the driver's seat were converted to absorbed power by the portable ride meter.

Obstacle-impact tests

30. The data collected for the obstacle-impact tests were the same as those measured in the ride tests, but only the peak values of vertical accelerations beneath the driver's seat were considered in the analysis. In addition to the dynamics data, the elapsed time and corresponding average speeds were determined for each test.

Traverse tests

31. In addition to the dynamic response data, the time each vehicle spent in each terrain unit in the traverse course was recorded.

32. Data were collected to characterize the traverse test course in the quantitative terms (Table 3) required by the AMM for predicting maximum speed. Procedures for collecting terrain data for vehicle mobility tests are given in Reference 5. To achieve maximum prediction accuracy, actual recorded values for terrain rather than midpoint class values were used in the model predictions for this study; however, terrain factor classes were used to establish terrain units and road

segments. Soil strength was measured during wet periods and dry periods to establish the dry, average, and wet soil conditions.

PART III: ANALYSIS OF FIELD DATA

Dynamics Tests

Ride tests

33. The basic data describing the ride and cargo responses from the ride tests are listed in Appendix A (Table A1) for each vehicle configuration.

34. Ride quality is presently based on the vertical motions at the driver's seat and is used as a basis for assessing the speeds at which a driver will operate the vehicle. Ride quality in itself does not fully represent the degree of accompanying vehicle abuse or vehicle tolerance to such abuse. Other motions, such as fore-and-aft and side-to-side, are being studied in other research programs to determine their effects on driver perceptions of ride quality and his corresponding driving behavior. All three motions were recorded in these field tests, but ride quality values for the present study were developed from vertical motion at the driver's seat only.

35. Absorbed power, which is a measure of the rate at which vibrational energy is absorbed by a human, is a ride comfort criterion established through a laboratory test program at TACOM several years ago. Six watts was established as the human tolerance limit[7] when vibration was in the vertical direction only. Results of field tests indicate that the 6-watt value is often low for certain short traverse tests and that a driver is often willing to subject himself to 10-20 watts for short periods of time. Field tests in which drivers have subjected themselves to more than 6 watts for several hours have not been conducted; therefore, the 6-watt criterion is still used for describing ride comfort.

36. Cargo area responses to continuous vibrations are described in terms of the composite rms acceleration. Composite rms acceleration is, in essence, a measure of the effective acceleration intensity resulting from the combined vertical, side-to-side, and fore-to-aft motions, disregarding the direction of the resultant vector. It is computed by

the equation

$$\text{Composite rms acceleration} = \sqrt{\frac{1}{T} \int_0^t x^2 dt}$$

where

T = the total time over which the accelerations are averaged.

t = the instantaneous time.

x = the square root of the sum of the squares of the accelerations in the vertical, side-to-side, and fore-to-aft directions.

This particular descriptor was used because it was felt that cargo damage depends more on the overall intensity of the vibration and less on the direction of vibration. These assumptions have not been validated, and further study is required to relate these response quantities to cargo damage limits. These data were included in the basic data table only for direct comparison of study vehicles. The angular accelerations were not analyzed because their effects are inherently reflected in the three-dimensional translational acceleration and thus are incorporated in the composite rms accelerations.

37. In addition to the composite rms accelerations, the number of occurrences of peak values of the composite acceleration falling within six preselected levels are included in the basic data. These cargo data are included mainly as supplemental information and are not analyzed. They provide a means of examining cargo responses and determining the distribution of peak g levels occurring in the cargo area during each test. This information could be used for estimates of the probability of exceeding given acceleration levels under certain specified conditions.

38. The assumptions have not been validated, and further work is required before type of cargo, packaging, etc., can be related to kind and degree of damage to be expected when cargo is subjected to vehicular vibrational environments.

39. The bases of the ride and cargo quantification are the absorbed power versus speed and composite rms acceleration versus speed relations, respectively, shown in Plates 1-20. These data show the manner in which

the ride and cargo responses change as a function of speed for each test vehicle configuration on each cross-country and trail course. A distinction was made between the cross-country and trail courses, and separate curves were drawn because past experiences with ride tests have revealed that trail courses generally permit higher speeds than the cross-country courses for corresponding levels of absorbed power and surface roughness. Repetitive vehicular traffic on trails, particularly that of heavy track-laying vehicles, tends to smooth out the high-frequency components in the terrain surface, which constitute a large portion of vibrational energy transmitted to the vehicle's main frame. It is realized that a better way of discriminating the frequency content of a profile is needed because some cross-country profiles may not have high-frequency components. For this study, however, the distinction between roads and trails was made in the absence of a better method.

40. The absorbed power-speed and composite acceleration-speed relations were delineated by faired curves through the data points. The lack of sufficient data, and even more important, the lack of consistent curve shape preclude the use of conventional curve-fitting techniques. Therefore, those curves were drawn on the basis of engineering judgments and patterns developed from past experience.

41. Ride quality. To compare the ride quality of test vehicles, the corresponding speeds at three levels of absorbed power (3, 6, 9 watts) were obtained from the absorbed power-speed relations (tabulated values are given for 6-watt level in Table 4) and plotted as a function of the corresponding surface roughness (Figures 11-21). However, many of the vehicles were limited by the maximum speed at which the test vehicle could be steered through the test course (designated the maximum control speed) before reaching the 6-watt level of absorbed power. In other cases, the test vehicle reached speeds in excess of 40 mph (about 40 mph was maximum speed on CC1A and T3 due to different surface roughness conditions in the approach and stopping lanes) without reaching a 6-watt level of absorbed power; therefore, engineering judgments were required to complete the relations over the entire speed range.

42. Since most of the test vehicles have relatively good

suspension systems, the effect of steering the vehicles on the ride dynamics test courses under the control of the driver (maximum control speed) was found to be much more of a problem than ride quality for these extremely light vehicles. That is to say, the driver was more concerned with keeping the vehicle under control than with the punishment he was taking in the driver's seat. The maximum control speed-surface roughness relations determined for each study vehicle configuration are shown in Figures 11-21 and tabulated values are shown in Table 4. In most cases, these relations show that the driver will take considerably more than 6 watts of absorbed power and maintain steering control at low speeds (10-15 mph) over high-surface roughness values (1.8- to 2.5-in. rms elevation), but that he is often limited by steering control before reaching 6 watts at higher speeds (30-40 mph) over low-surface roughness values (0.5- to 1.0-in. rms elevation).

43. To provide a concise, but approximate,* means of ranking the vehicles on the basis of their ride characteristics, the speeds at which 6 watts of absorbed power occurred at 0.6-, 1.2-, and 2-in. rms elevation values on each cross-country and trail course were averaged to obtain a single measure of the overall cross-country and overall trail speeds for each test vehicle. The vehicles were then ranked in accordance with their average speeds, and each was compared in terms of the percentage of its speed to that of the M151A2 with 800-lb payload. These rankings are given in Table 5. On this basis, the standard Scout with its rated payload of 1919 lb ranked first in ride quality on the cross-country ride test courses with a 10.9-percent increase in speed over the M151A2. The standard Scout with an 800-lb payload ranked first in ride quality with a 39.6-percent increase in speed over the M151A2 on the secondary road and trail test courses.

44. Table 5 generally shows that the commercial vehicles ranked

* This assumes an equal probability of encountering each rms roughness and equal probability of cross-country and trail operation. Actual distributions are highly terrain and mission dependent. Accordingly, the rankings can only be considered approximations, and under some circumstances might be misleading.

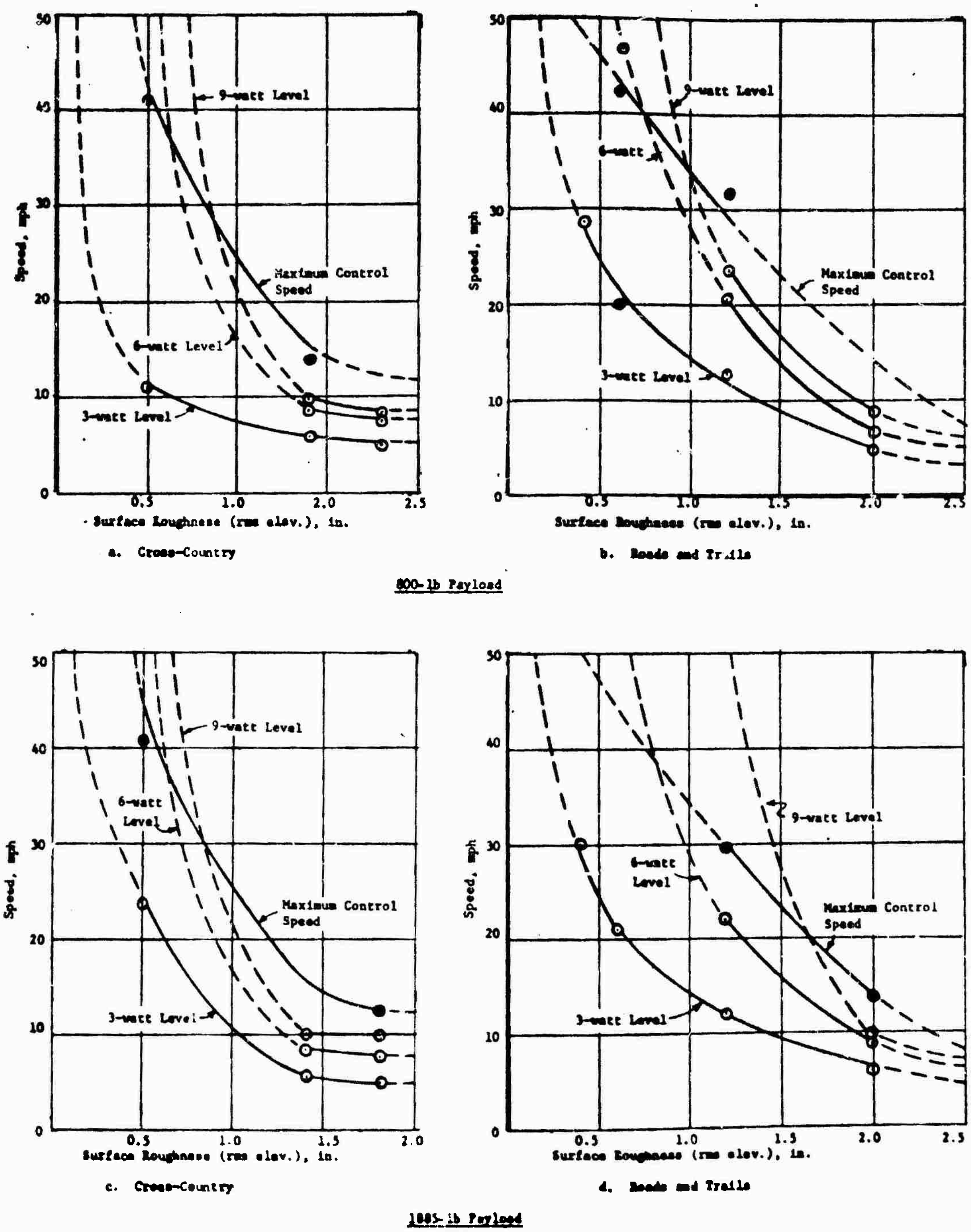


Figure 11. Surface roughness-speed relations for standard Ramcharger at two payloads

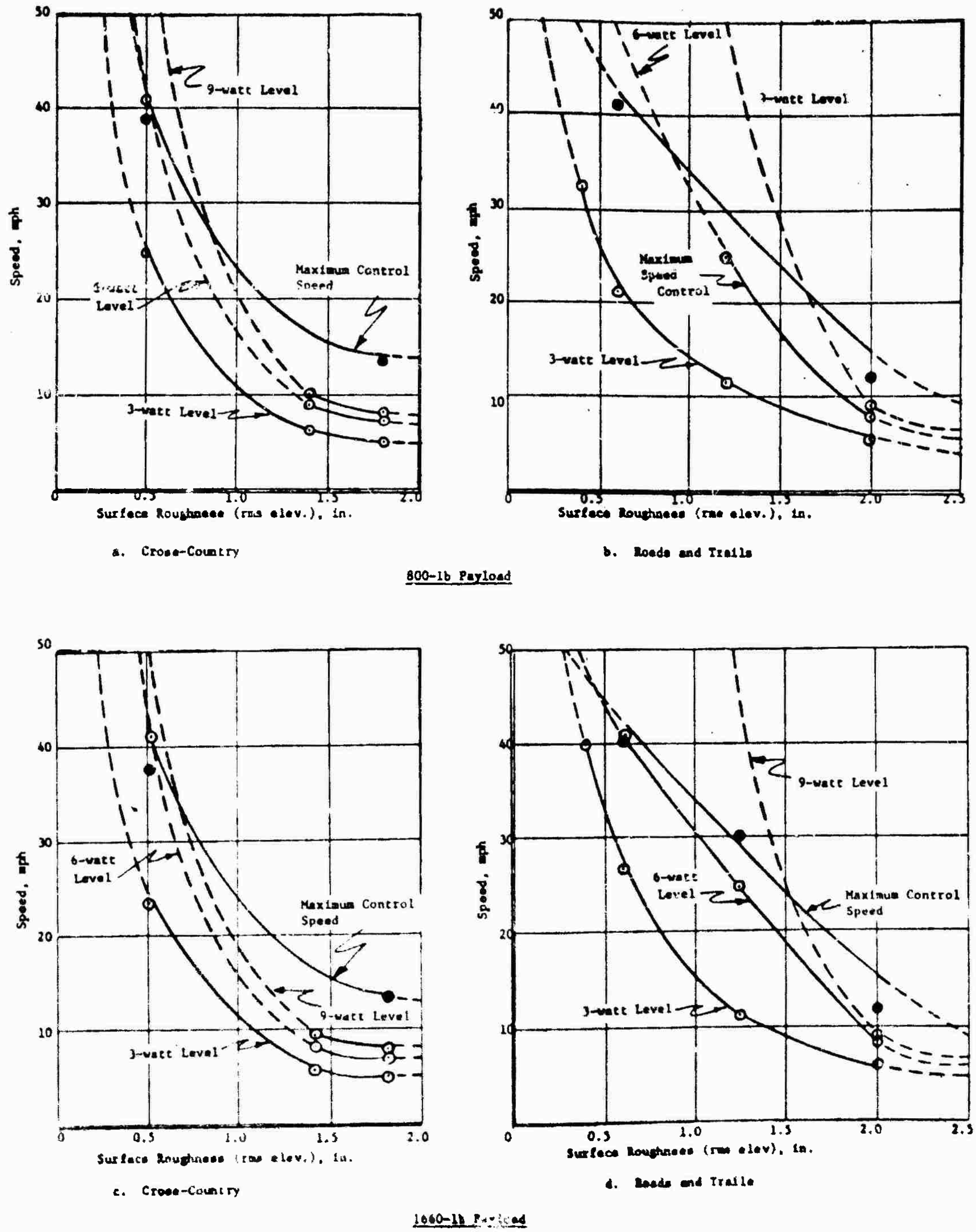
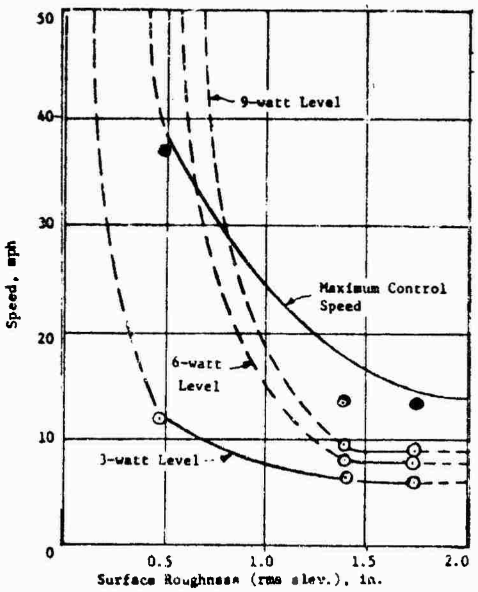


Figure 12. Surface roughness-speed relations for standard Blazar at two payloads



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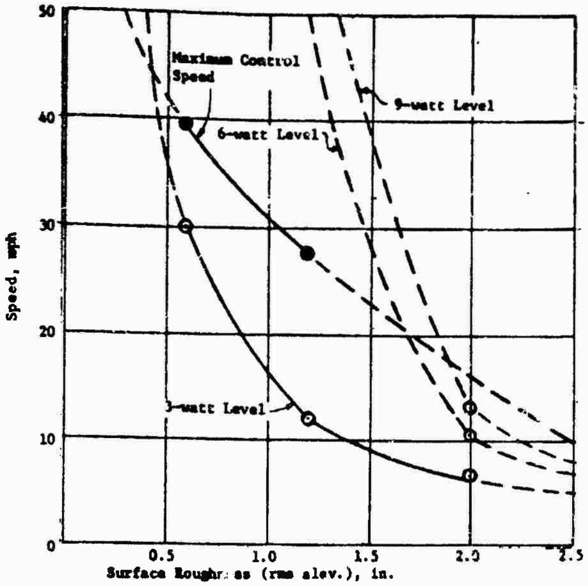
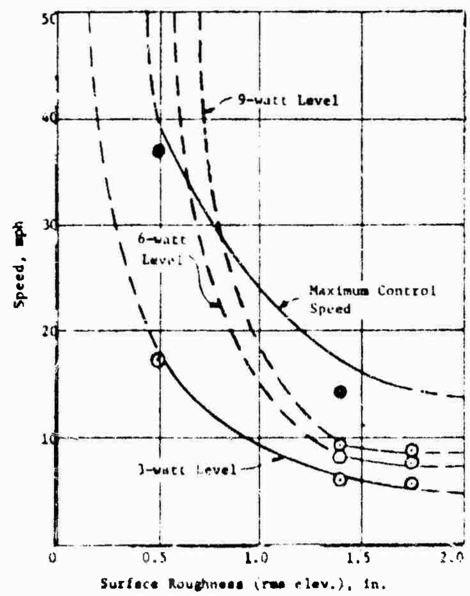
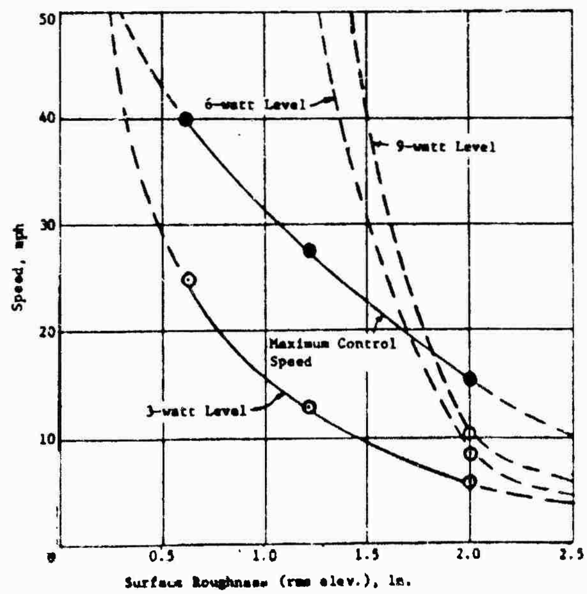


b. Roads and Trails

800-lb Payload



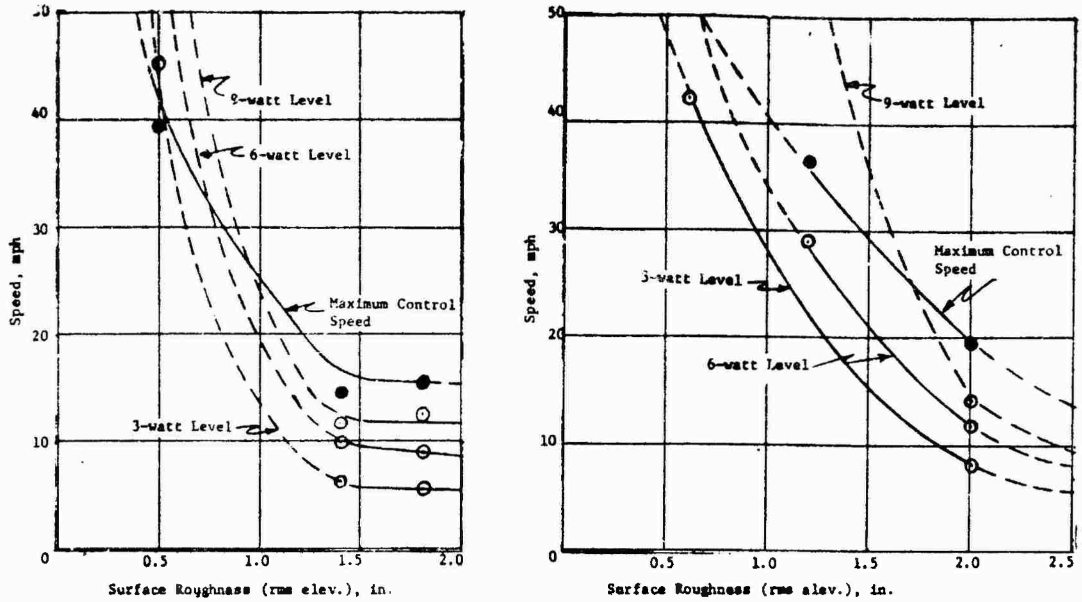
c. Cross-Country



d. Roads and Trails

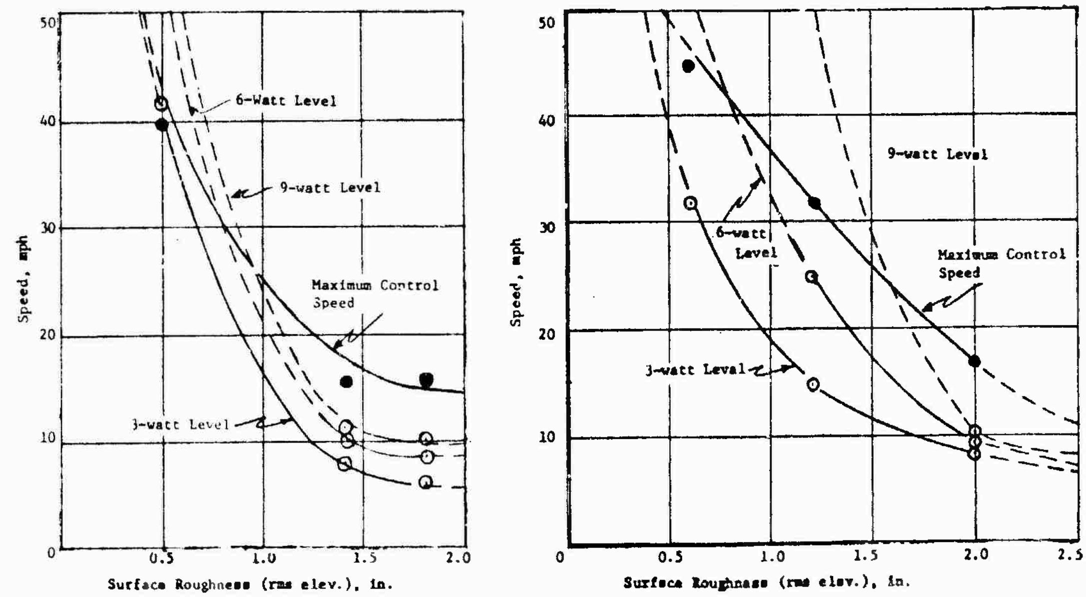
1300-lb Payload

Figure 13. Surface roughenss-speed relations for standard CJ5 at two payloads



a. Cross-Country b. Roads and Trails

800-lb Payload



c. Cross-Country d. Roads and Trails

1919-lb Payload

Figure 14. Surface roughness-speed relations for standard Scout at two payloads

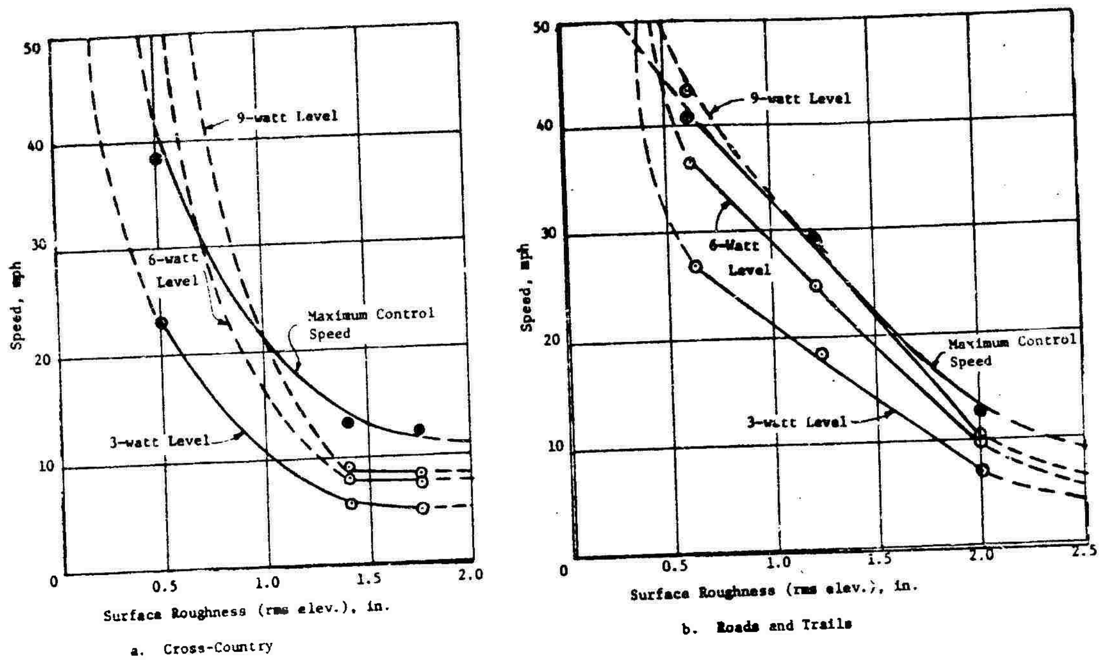


Figure 15. Surface roughness-speed relations for standard Bronco at 800-lb payload

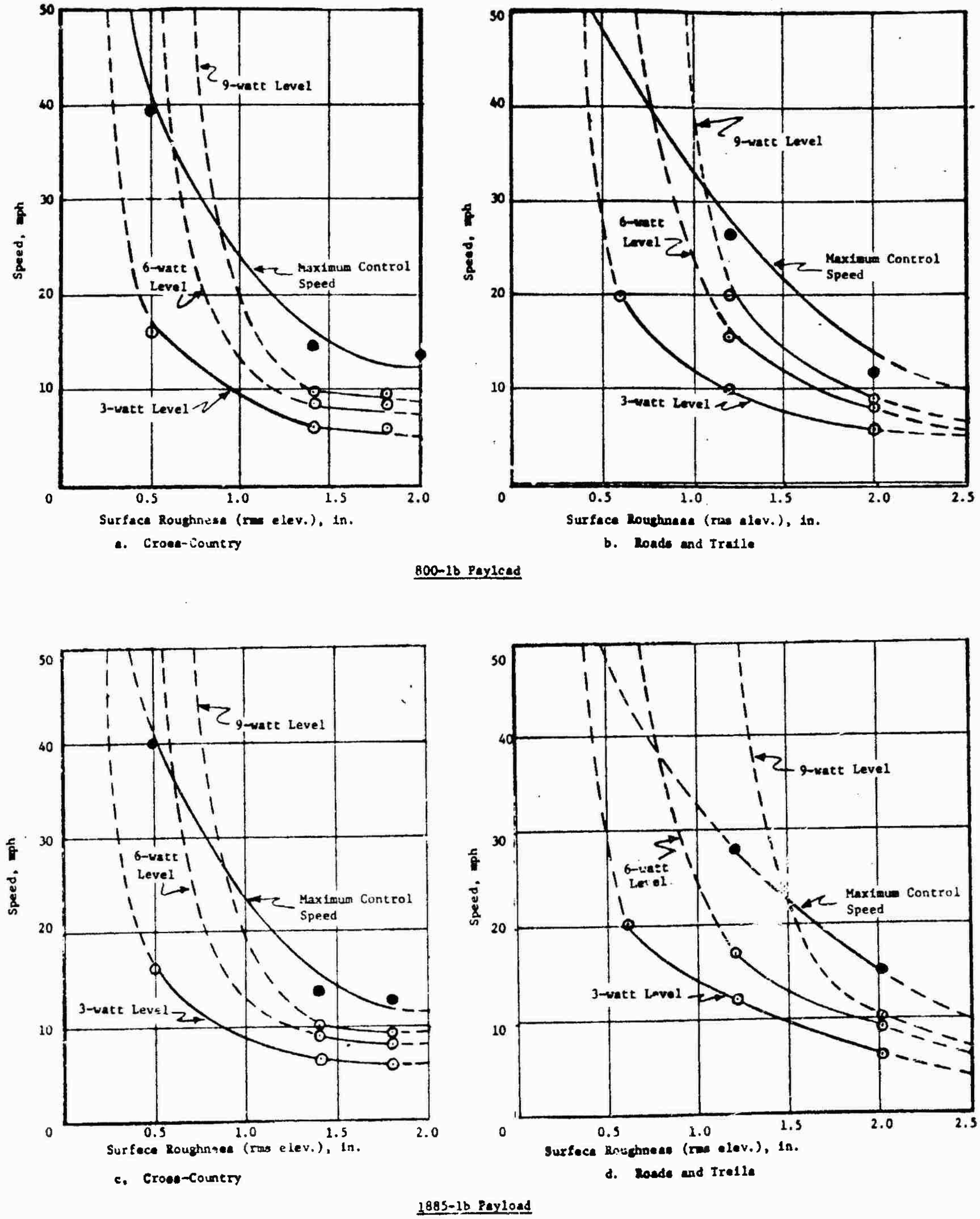


Figure 16. Surface roughness-speed relations for high-performance Ramcharger at two payloads

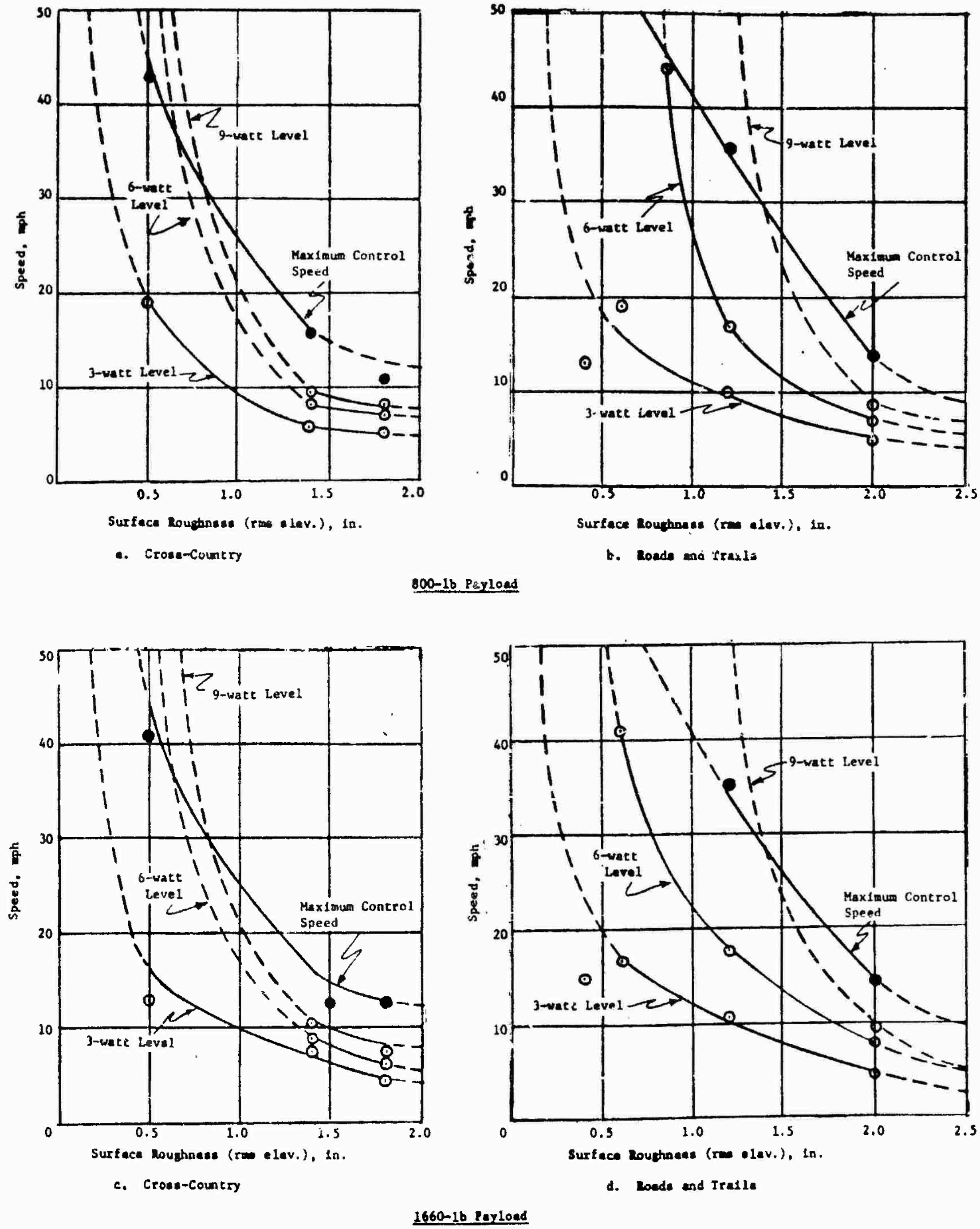


Figure 17. Surface roughness-speed relations for high-performance Blazer at two payloads

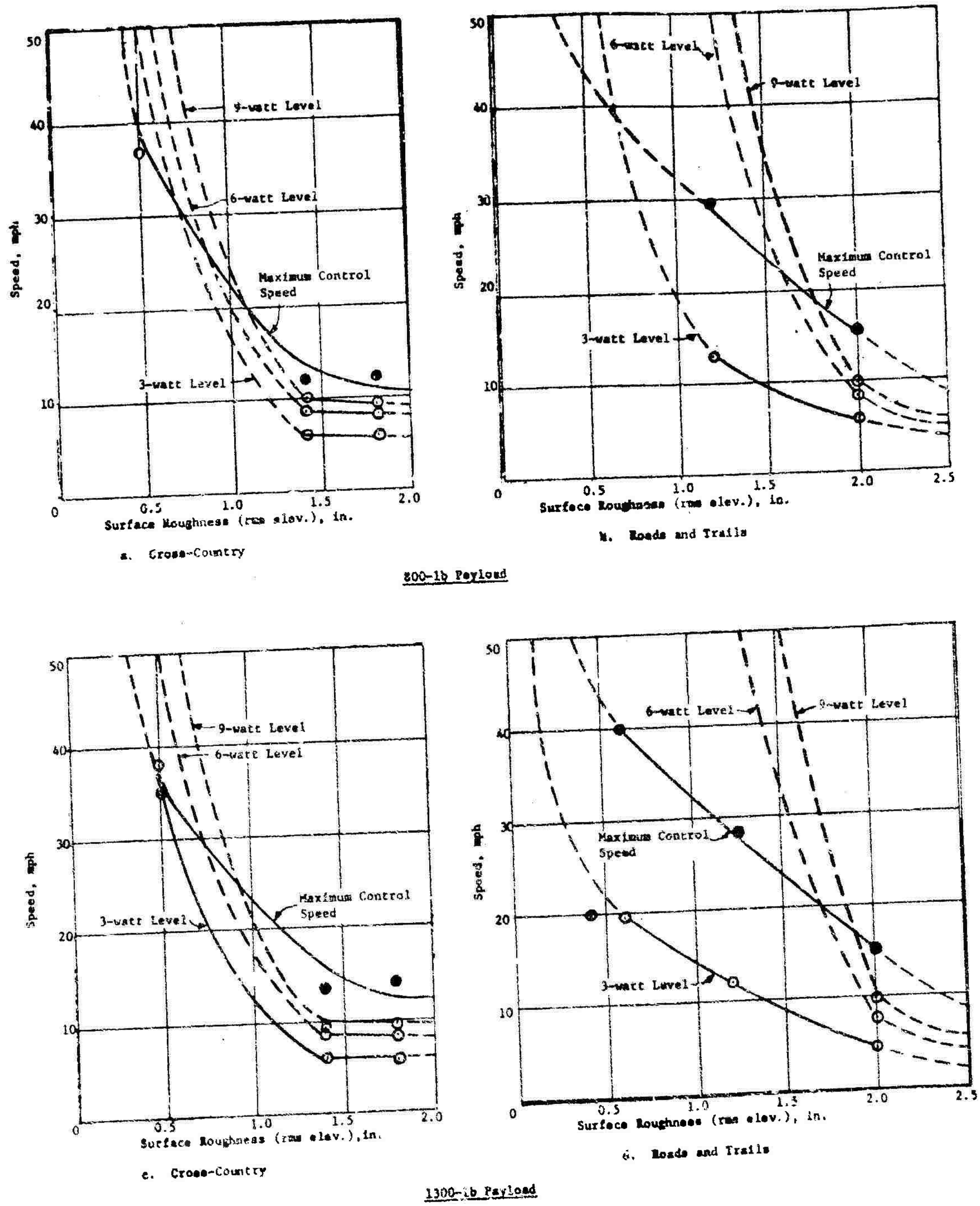


Figure 18. Surface roughness-speed relations for high-performance CJ5 at two payloads

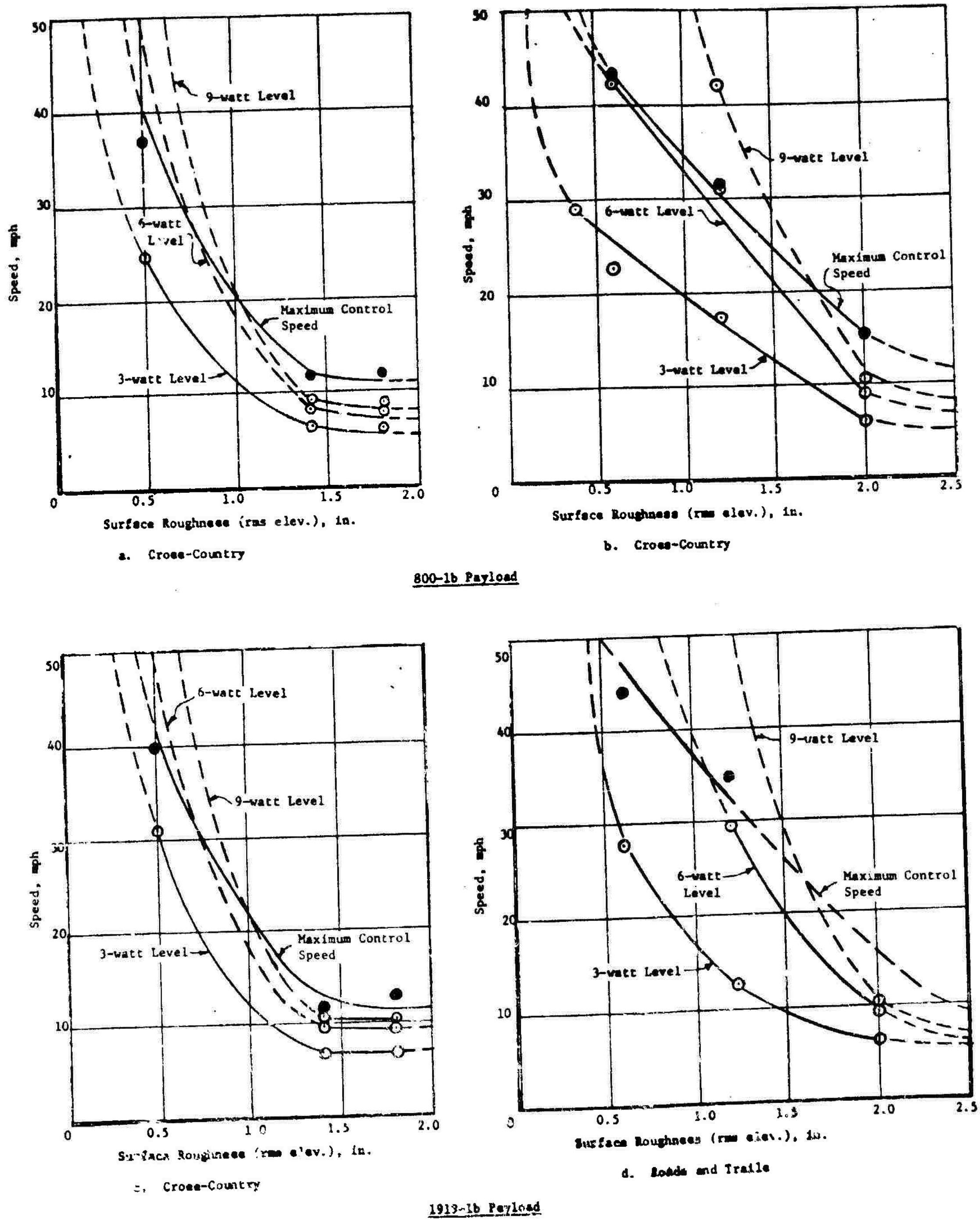


Figure 19. Surface roughness-speed relations for high-performance Scout at two payloads

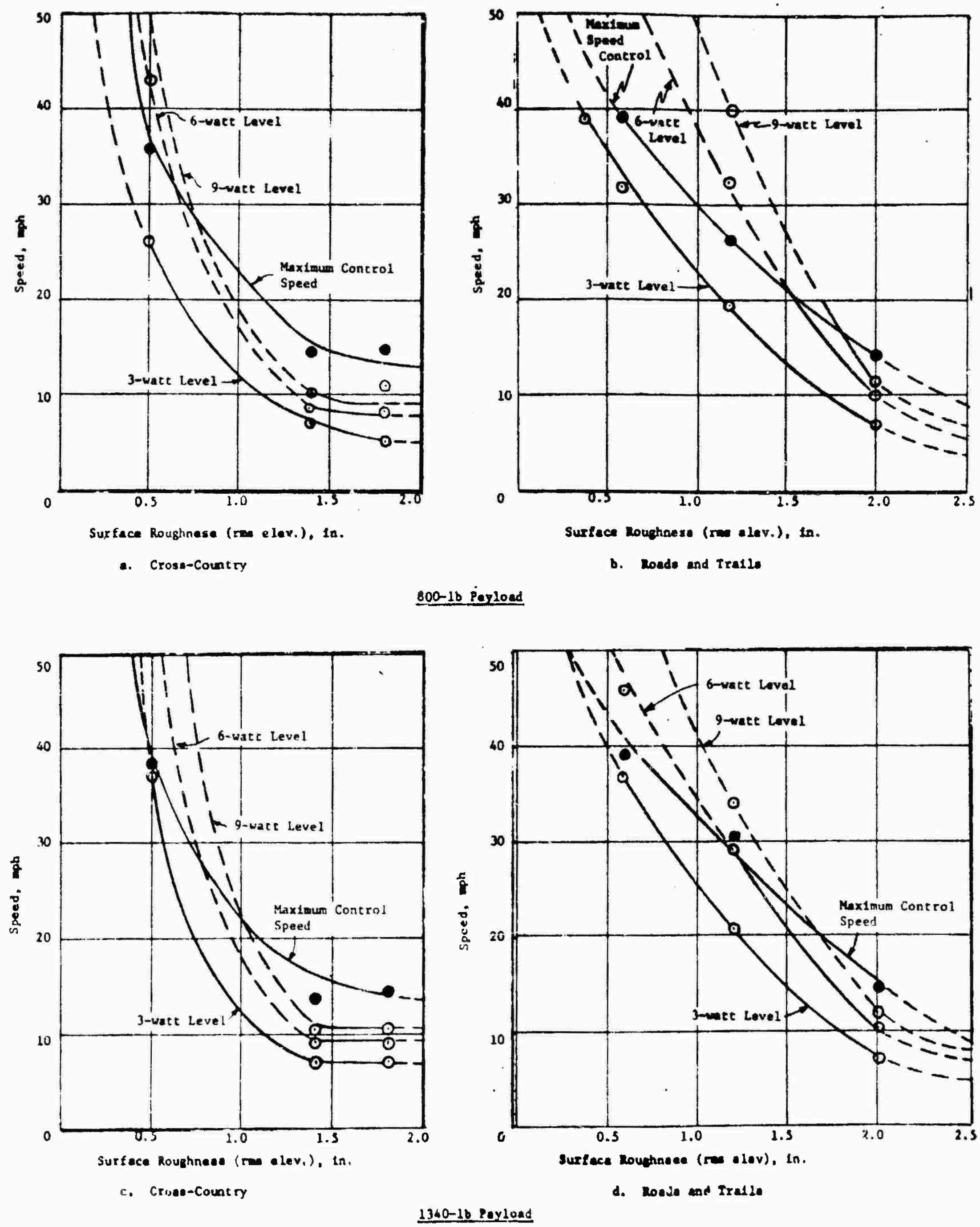


Figure 20. Surface roughness-speed relations for high-performance Bronco at two payloads

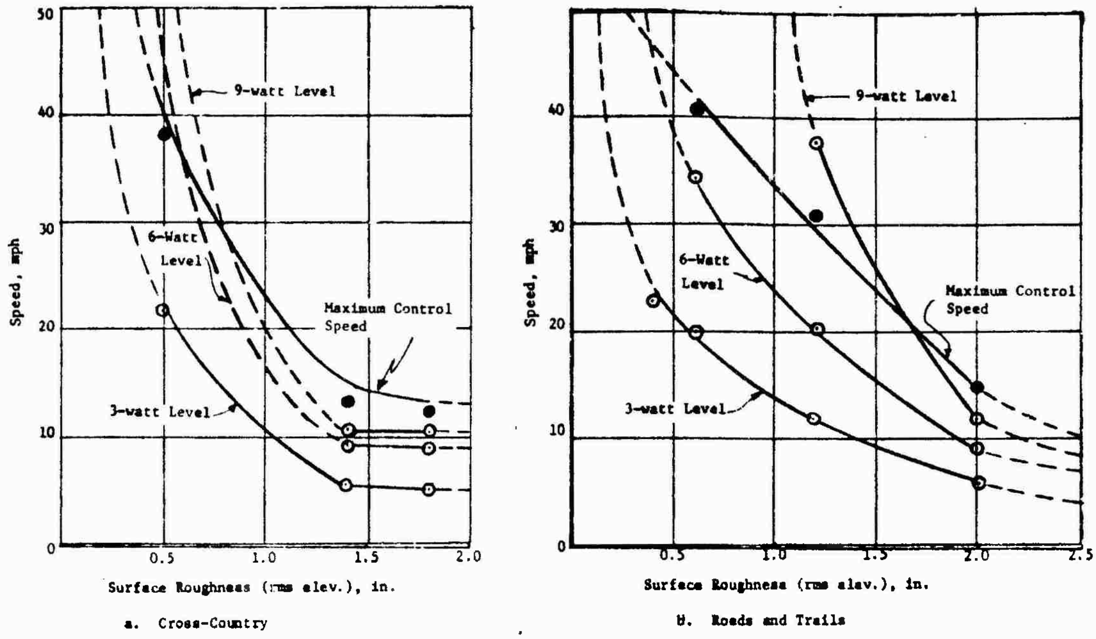


Figure 21. Surface roughness-speed relations for military M151A2 at 800-lb payload

equally as well, better, or only slightly lower with their rated payloads than with the 800-lb payload.

45. Ranking of vehicles in this manner shows an overall ride quality superiority of vehicles subjected to a wide range of rms elevation values. However, the ranking may not apply to specific vehicle missions or jobs with a lesser range in rms elevation.

46. Cargo response. Since research has not yet established tolerance levels to composite acceleration for various types of cargo or even established composite acceleration to be the best measure of cargo response, a comparison was made only for an arbitrarily selected 0.4-g level.

47. The speeds at 0.4 g's were obtained directly from Plates 1 to 20 for each study vehicle configuration and ride test course. These speeds were then related to the rms elevation for the test courses as shown in Table 6 and 7.

48. To provide a concise means of ranking the study vehicle configurations with regard to cargo response, the speeds at 0.4-g composite acceleration at the different rms elevations were averaged to obtain a representative measure of cross-country and trail speeds for each study vehicle configuration.* The study vehicle configurations were also ranked according to their average speeds, and the percentage of their speed to that of the M151A2 with an 800-lb payload was computed.** These rankings are listed in Tables 6 and 7.

49. The standard Scout with an 800-lb payload ranked first relative to cargo response with a 6.78-percent increase in speed over the M151A2 on the cross-country ride test courses. The M151A2 ranked first in cargo response on the trail test courses with an 0.8-percent increase over the standard Scout with an 800-lb payload, which ranked second on the secondary road and trail test courses.

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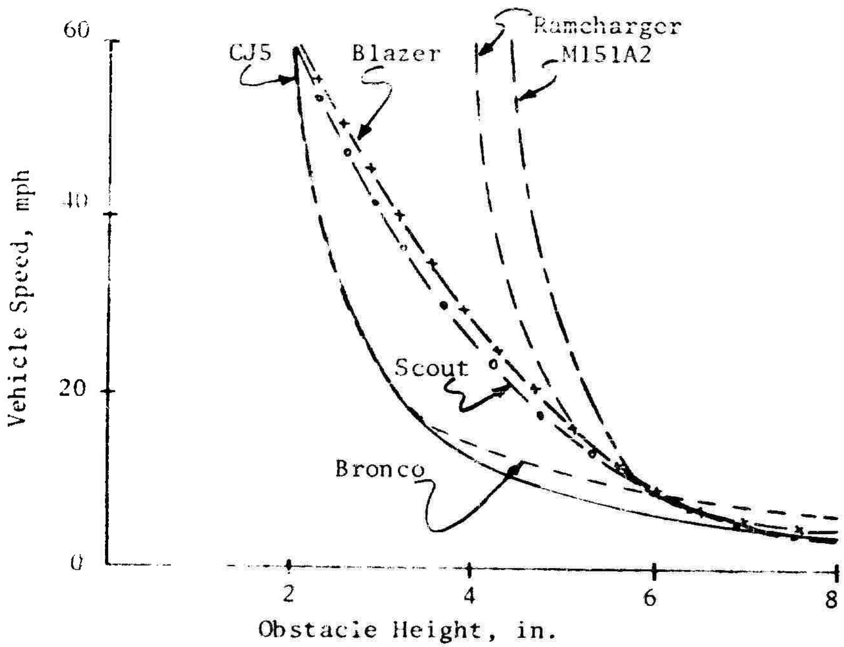
* See footnote paragraph 43.

** This ranking is strictly applicable to travel over trails and secondary roads having the same relative distributions of roughness, slope, curvature, etc., as the test traverse. More reliable rankings can be made through use of AMM only in terrain and scenario conditions representative of projected field use.

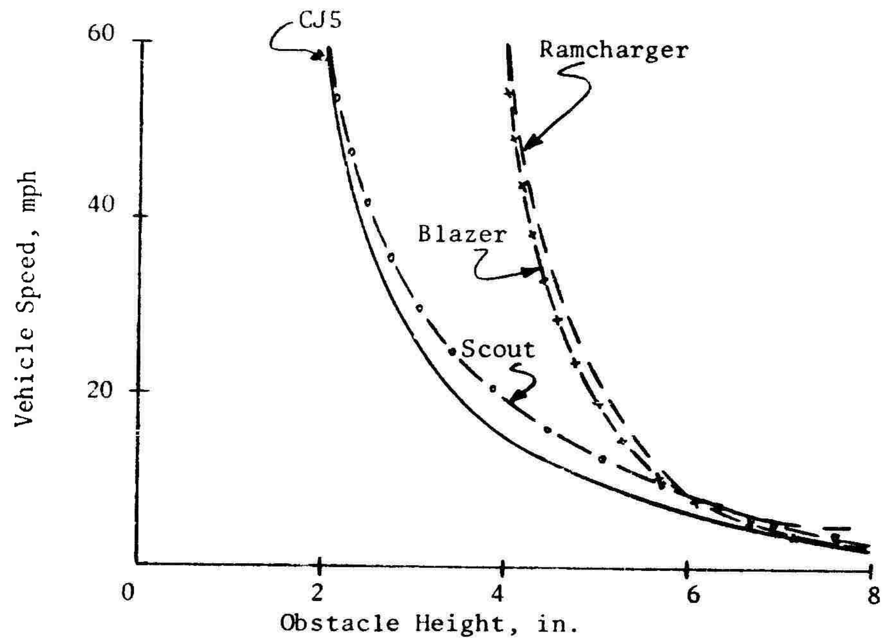
Obstacle-impact (shock) tests

50. An important aspect of vehicle ground mobility is the ability of vehicles to negotiate minor abrupt discrete obstacles. Logs, boulders, rice paddy dikes, etc., are encountered frequently in off-road travel and produce speed-controlling shock loads that depend on the size of the obstacle, the size of the traction element, and the speed at which the obstacle is impacted. Results of past studies have indicated that obstacle height is a simple, straightforward, suitable descriptor for characterizing such discrete obstacles. The prime response criterion currently used for limiting vehicle speed is that level at which the driver's vertical acceleration reaches 2.5 g's with acceleration peak duration determined by a 30-Hz filter. However, there were instances during the obstacle tests in this study in which the 2.5-g level was not obtained because a slightly different filler in the field-measuring device indicated that this peak 2.5-g level had been reached when subsequent close analysis of the tape-recorded data showed that this was not the case. Some of the vehicles were not tested over the 8-in. obstacle because the clearance under these vehicles would definitely have caused the vehicle to slow to less than 2 mph, and even then the chance of severe damage from hitting the unyielding steel obstacle was high. For the vehicles not tested over the 8-in. obstacles, a speed of 2 mph was assigned since it was felt that the vehicle could cross many natural obstacles of similar height at this low speed without damage.

51. The basic data for peak accelerations while the vehicles were crossing obstacles are given in Appendix A (Table A2). The relations of obstacle height versus impact speed for 2.5-g vertical acceleration for each vehicle configuration are given in Figures 22-23 and tabulated values are given in Table 8. Data were collected over only 4-, 6-, and 8-in. obstacles. Previous testing[5] has shown that many vehicles will never reach a 2.5-g level of vertical acceleration while crossing a 4-in. obstacle; therefore, all test vehicle configurations which had not reached a peak acceleration of 2.5-g's on the 4-in. obstacles



a. 800-lb Payload



b. Rated Payload

Figure 22. Obstacle height-speed relations for standard vehicles and M151A2

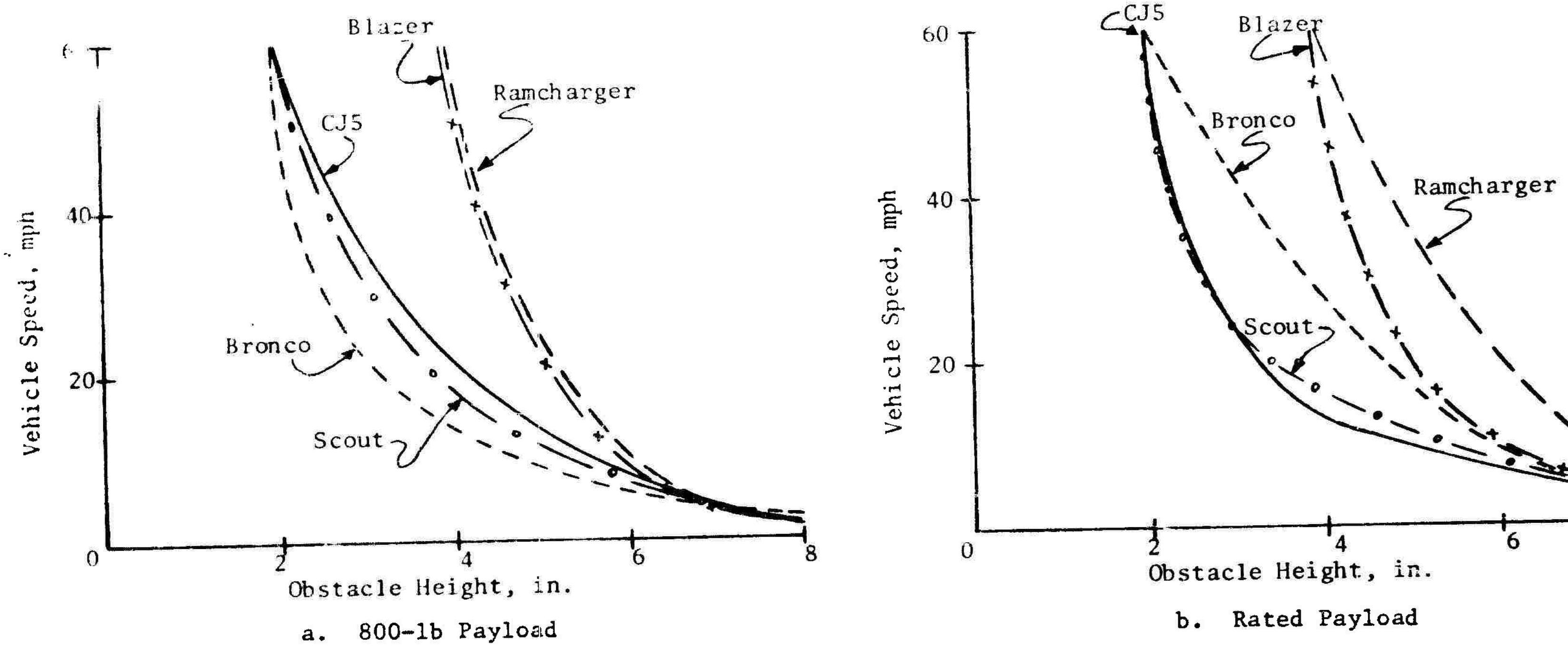


Figure 23. Obstacle height-speed relations for high-performance vehicles

were assumed to be able to negotiate 2-in. obstacle heights* at 60 mph without reaching a 2.5-g level of acceleration.

52. To obtain a better idea of the relative effect of shock on obstacle-crossing ability, the vehicles were ranked in accordance with their average obstacle-crossing speed over 4-, 6-, and 8-in. obstacle heights** and also in terms of the percentage of their speed to that of the M151A2 with an 800-lb payload. These rankings are presented in Table 9.

53. The high-performance Ramcharger with an 1885-lb payload ranked first in shock performance with a 13.8-percent increase in speed over the M151A2 over the obstacle test courses.

Traverse Tests

54. Eighty traverse tests were conducted with the 20 vehicle configurations. Traverse speed (Table 10) and secondary road or trail unit speed (Appendix B, Tables B1 to B16) were measured for each configuration using three military drivers and one WES experienced driver as the basic control. The speed data collected during the test with the WES control driver were used to compare the speed performances of the configurations. The speed data collected during the test with the military drivers were used to compare the performances of the military drivers with that of the WES driver.

55. All traverse tests with the WES driver were instrumented to obtain some dynamics data in addition to the speed data. A detailed listing of the data obtained for each vehicle configuration during the instrumented tests is presented in Appendix B (Tables B17 to B36).

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* Seldom are obstacles with a 2-in. height described as discrete obstacles. In any event, they would be included as a part of the surface roughness profile. Included as part of the surface roughness profile, they could present either a ride-limiting speed or a control problem due to steering and handling before a 60-mph speed was reached.

** Same basic caution as noted in footnote, paragraph 43.

Included in these data are the secondary road or trail unit distance, speed, surface roughness (rms elevation), absorbed power, cargo composite acceleration, and peak acceleration measurements.

Speed performance

56. Terrain unit speeds are summarized by the bar graph for each vehicle configuration in Figure 24. These bar graphs show the relatively high speeds that all the vehicles were able to maintain over the secondary road units and the lower speeds over the trail units. For a simpler comparison, the average speeds for all secondary road units, all trail units, and the complete traverse are given in Table 11.

57. Table 11 shows that all the vehicle configurations were able to average speeds greater than 39.5 mph for all the secondary road units. Variations in vehicle speed for these units were largely a result of vehicle speedometer error and the driver sometimes exceeding the 40-mph speed limit imposed to reduce the chances of a serious accident on the secondary road. Since these differences in speed on the secondary road do not really indicate differences in vehicle performance and are reflected in the traverse speeds, the average speed for all trail units was selected for comparing the vehicle configurations over the traverse.

58.. To get a better idea of the relative speed performance of the vehicle configurations over the trail units, the vehicles were ranked according to speed and the percentage of the speed of each configuration to that of the M151A2 with an 800-lb payload. The rankings and speed comparisons are given in Table 12.

59. The high-performance Bronco with an 800-lb payload ranked first with a 6.3-percent increase in speed over the M151A2. Table 12 also shows that the traverse speed of most of the high-performance vehicles with a rated payload was equal to or better than with an 800-lb payload. Most of the standard vehicles traverse speeds were better with an 800-lb payload.

Ride quality

60. As experienced in previous test programs at Fort Hood[5,6] in which vehicles were tested over all or part of the traverse used in this

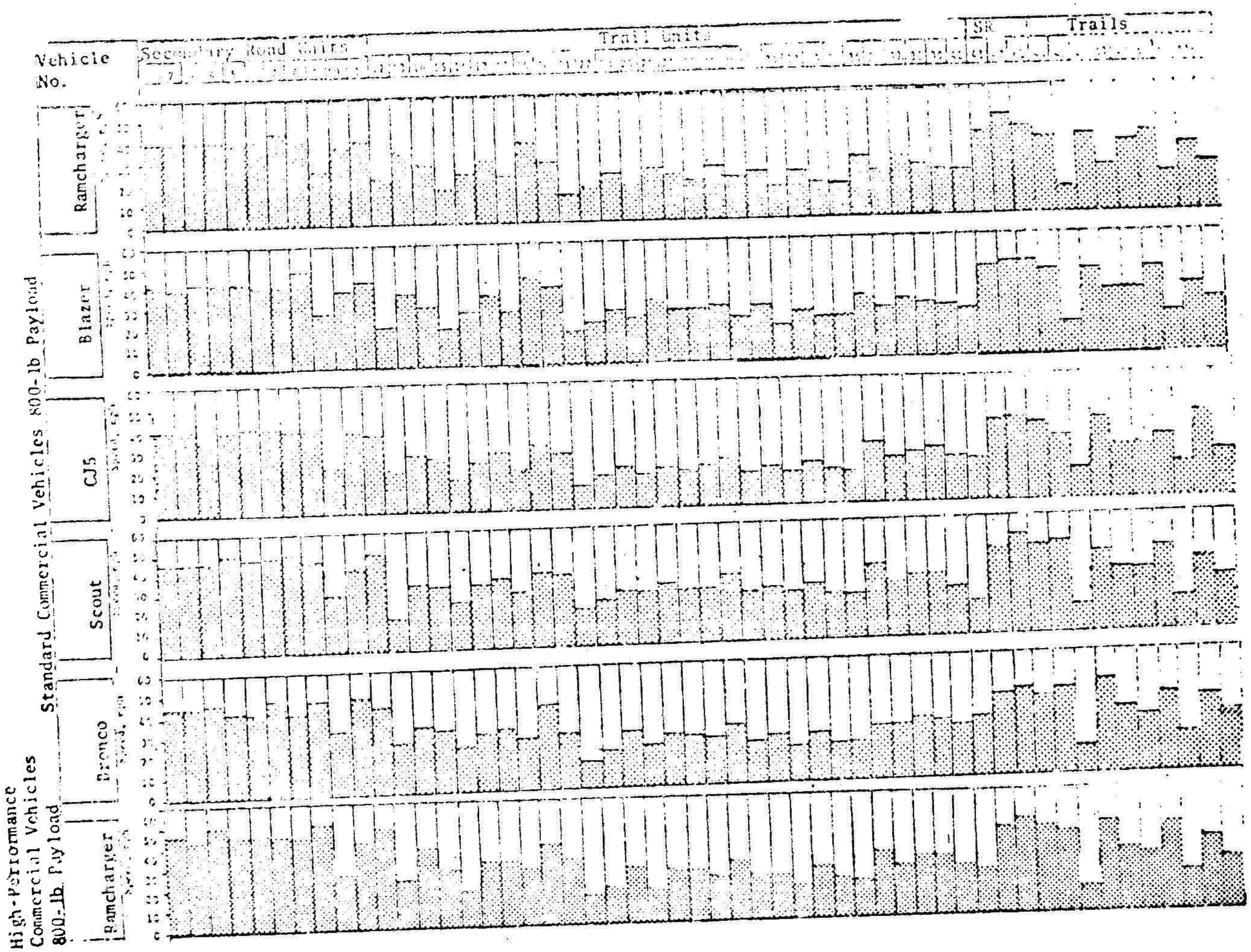

Figure 24. Speed measured in each road or trail unit during instrumented tests on traverse course (sheet 1 of 4)

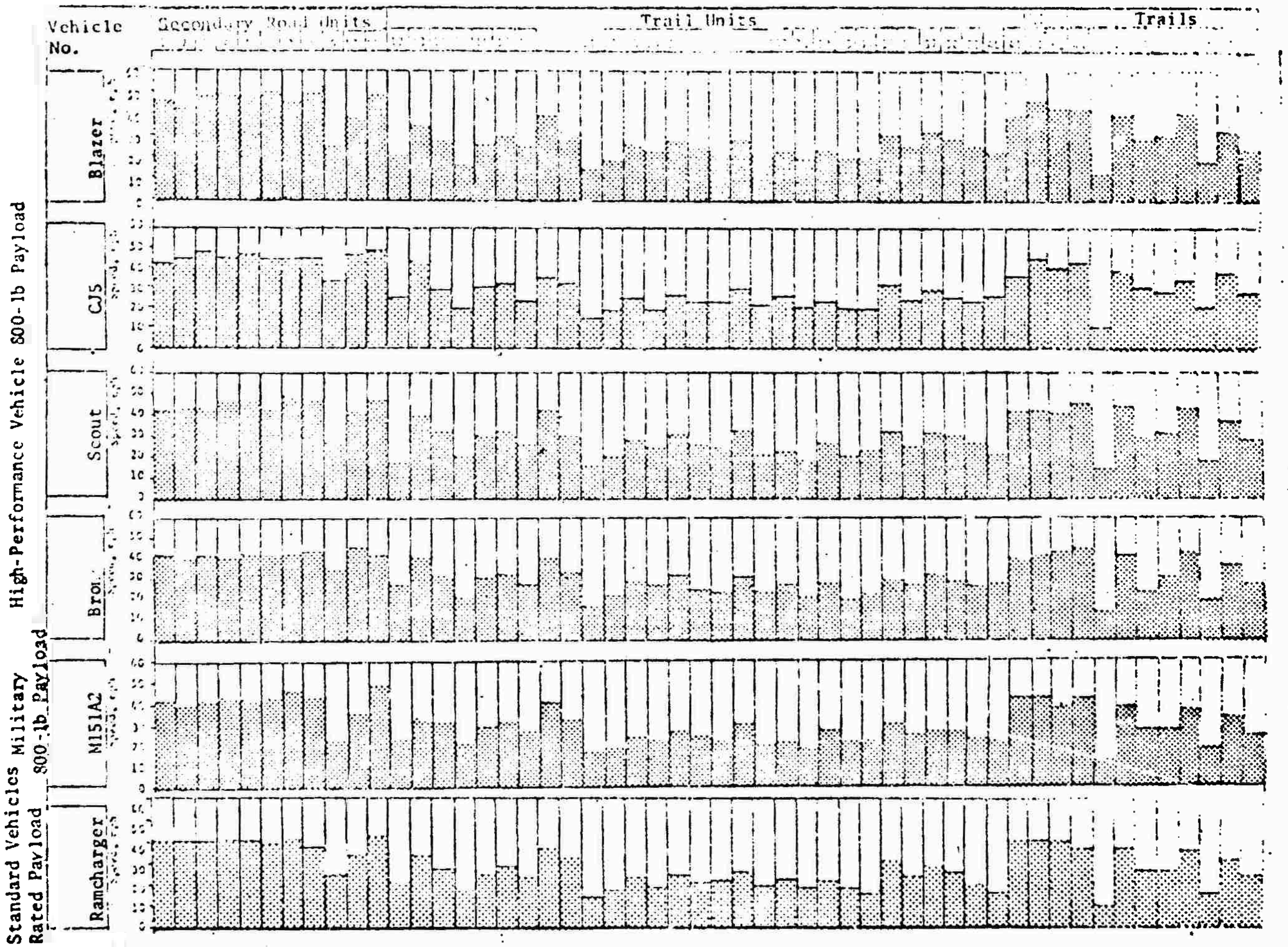

Figure 24 (sheet 2 of 4)

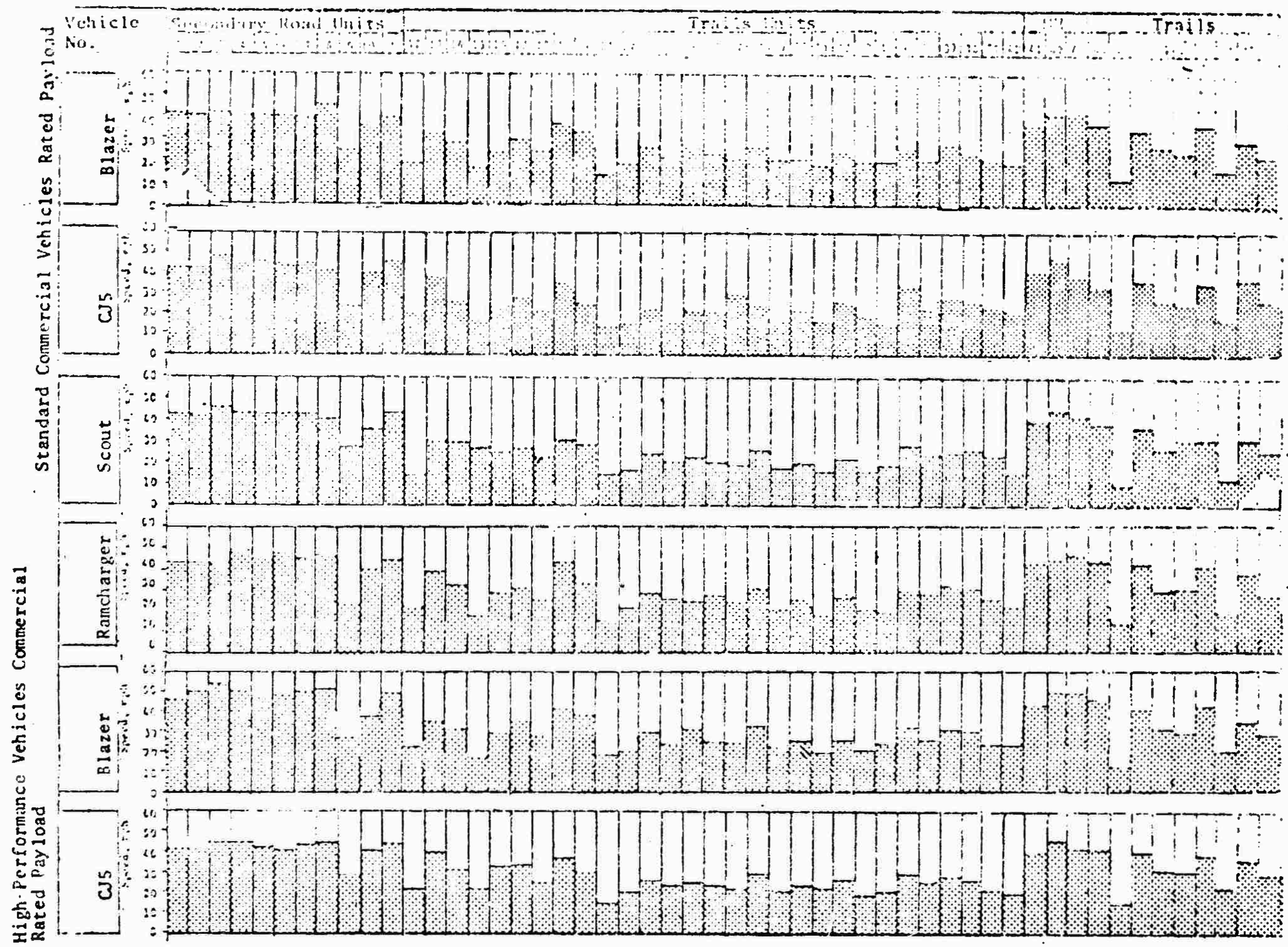

Figure 24 (sheet 3 of 4)

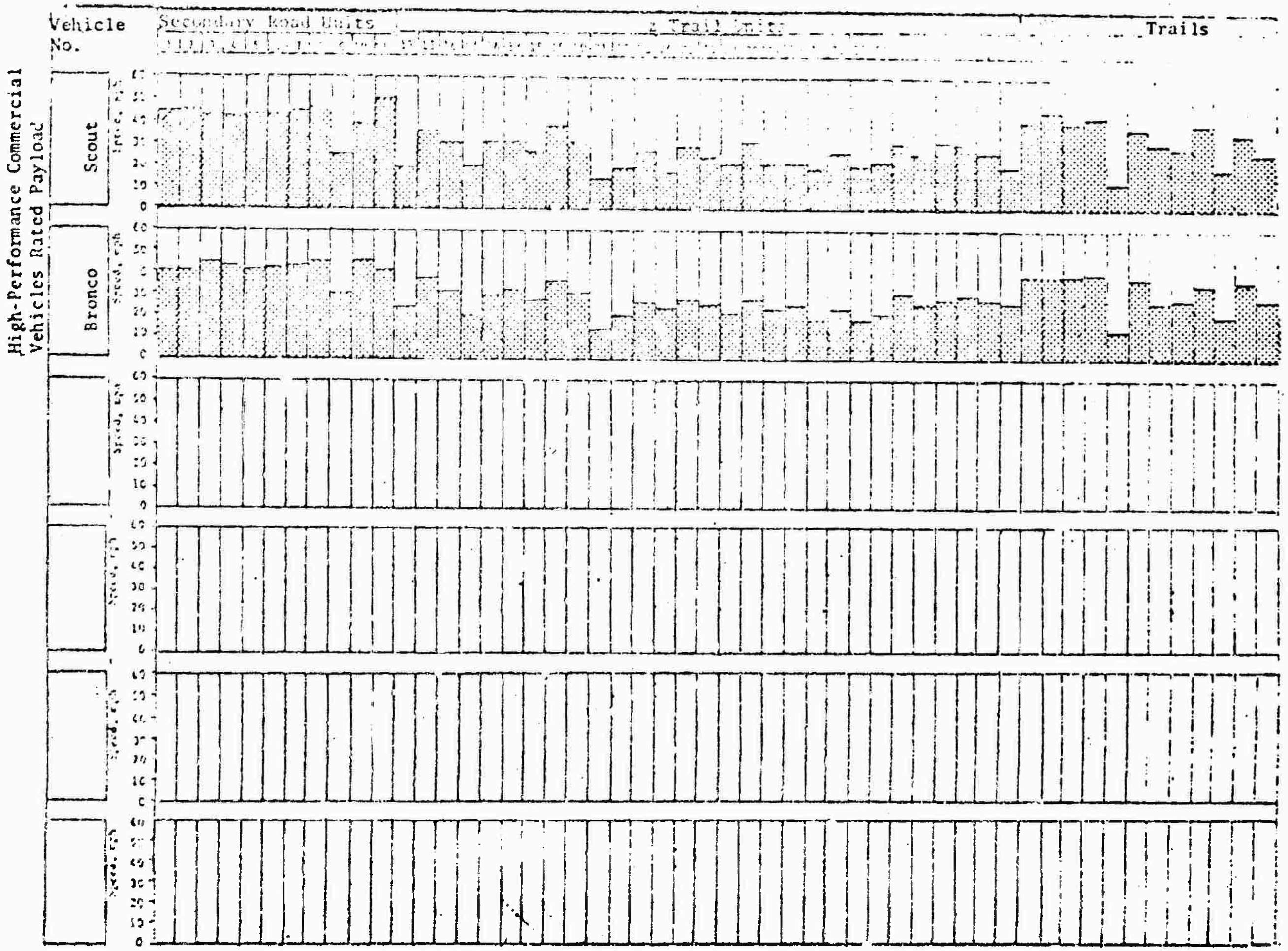

Figure 24 (sheet 4 of 4)

study, the test drivers were often willing to tolerate 15-20 watts of absorbed power for many of the units (Appendix B, Tables B17 to B36). The tests in this study have confirmed that the 6-watt ride criterion is not valid for short traverses.

61. To get some idea of the difference in ride quality of the vehicle configurations over the traverse, the measured absorbed power and speed data for each terrain unit (Appendix D, Tables D17 to D36) were used to compute the absorbed energy per mile for the traverse (E_t), which is considered to be an index of relative driver fatigue associated with the measured traverse performance. E_t is given by the following equation:

$$E_t = \frac{\sum_{1-n} \frac{P_{tu}}{V_{tu}} \times D_{tu}}{D_t}$$

where:

P_{tu} = average absorbed power for terrain unit, watts

V_{tu} = average speed for terrain unit, mph

D_{tu} = terrain unit distance, miles

D_t = traverse distance, miles ($= \sum_{1-n} D_{tu}$)

n = number of terrain unit

62. The computation involves determination of the absorbed energy per mile for each terrain unit and weighted by distance to obtain an average value for the complete traverse. Absorbed energy per mile of traverse was first expressed in the HIMO Study[8] in which the absorbed power per mile for each terrain unit (P_{tu}/V_{tu}) was estimated from the AMM speed prediction for the terrain unit (V_{AMM}) and the 6-watt ride speed for the unit (V_r) by means of the following equation:

$$\frac{P_{tu}}{V_{tu}} = \left(\frac{V_{AMM}}{V_r}\right)^2 \times \frac{6}{V_{AMM}}$$

63. Traverse ride performances of the vehicle configurations were then ranked according to the lowest value of absorbed energy per mile

for the traverse and the percentage of the absorbed energy of each test vehicle configuration to that for the M151A2 with an 800-lb payload. These rankings are given in Table 13.

64. The standard Scout with a 1919-lb payload ranked first with an absorbed energy per mile of traverse about one-half that of the M151A2.

Cargo response

65. Composite acceleration and peak acceleration values are presented in Appendix B (Tables B17 to B36). These data were not analyzed in this study.

Driver comparison

66. Examination of the traverse speed data (Table 10) shows a 3- to 17-percent difference in the speed performance between the military driver with the lowest speed and the military driver with the highest speed. Both the traverse speed data and the detailed secondary road and trail unit data (Appendix B, Tables B1 to B16) show that in all cases the WES driver's speed exceeded the speed of any of the three military drivers.

67. Table 14 gives the average traverse speeds of the three military drivers, the average traverse speed of the WES driver, and the percent-speed difference between the military drivers and the WES driver. The average speed of the military drivers ranged from 10 to 32 percent lower than that of the WES driver for different vehicle configurations. The average military driver's speed was 19 percent lower than that of the WES driver when all configuration were considered.

68. It should be noted that the military drivers did not have complete control over their vehicles during traverse testing and would not have been able to safely maintain the speeds they did without the aid of the observer. Considerably more training of the military drivers than was possible in this study would be required before they could attain high-traverse speeds safely without the aid of an experienced observer.

AMM Predictions

69. The primary purpose for conducting the traverse tests was to check the ability of the AMM to predict speed over the traverse test course. The traverse test course represents just one example of a mission that might be expected of the study vehicles; if the AMM can be demonstrated to reflect good performance predictions on the traverse, the model can be used with more confidence to evaluate the study vehicles over the wide range of terrain, road, and trail conditions that must be examined before final decisions are made.

70. The AMC-74/x* version of the AMM[8] was used to determine terrain unit speeds for the traverse. Because some of the terrain units in the traverse occupied short distances, acceleration and deceleration effects (AC/DC) on speed when a vehicle was entering and exiting a terrain unit were also accounted for. Road and trail unit descriptions used in the predictions are given in Table 3. Vehicle characteristics used in the model for predicting speed are shown in Table 15. The item numbers in Table 15 are keyed to the vehicle characteristics numbers in Table 16. Additional items in Table 16 (38-41) identify the relations used in AMC-74/x and are given in Tables 4, 8, and 17.

71. The predicted and measured speed for each of the study vehicles with an 800-lb payload, using the standard 6-watt absorbed power ride criterion, are shown in Table 18. The percentage of error between the predicted and measured speeds ranged from 2.4 to 40.5 percent for the study vehicles with an 800-lb payload. The large error in the predicted speeds was felt to be largely due to the fact that the driver did not restrain himself to 6-watt absorbed power (Appendix B, Tables B17 to B36). New speed predictions were made with the AMC-74/x substituting the maximum control speed-surface roughness relations instead of the speed at 6-watt absorbed power-surface roughness relation (Table 18). The percentage of error between the predicted and measured speeds ranged from 5.2 to 17.6 percent.

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* AMC-74/x denotes the current state of AMM. This version is considered to contain about 95 percent of the refinements to the AMC-74 version.

Miscellaneous Data

Effects of tire pressure on absorbed power

72. A limited number of dynamics tests were conducted over ride test courses CC1A, CC2A, and T1 using the M151A2 with 800-lb payload at tire pressures of 15 and 30 psi in addition to those conducted at 20 psi (Table 2) to determine the influence of tire pressure on absorbed power. Test results showed very little or no change in absorbed power as tire pressure was changed over this range (Figure 25).

VCI_1* predictions

73. VCI_1 predictions were made with the AMM for each vehicle configuration and are given in Table 20. These data are included only as supplemental data.

Summary Discussion of Evaluations

74. The vehicle evaluations in this study were all primarily with regard to ride characteristics and should not be interpreted otherwise. The vehicle configurations were not tested over a wide enough range of terrains to completely evaluate the vehicles. The AMM and the dynamic relations developed in this study must be used to evaluate the study vehicles over widely ranging variations in terrains, trails, and roads for trail decision purposes.

75. The study vehicles were evaluated and ranked in terms of ride quality and cargo response, shock on impacting obstacles, and traverse speed and absorbed energy per mile over the traverse test course. A summary of these rankings is given in Table 20.

76. Of those elements examined in the test program, traverse speed is considered to be the most significant ranking because it integrates the dynamic effect on vehicles due to surface roughness together with some simple effects of soil, slope, obstacles, and visibility, but the

* Minimum soil strength (cone index) required for one pass of a vehicle.

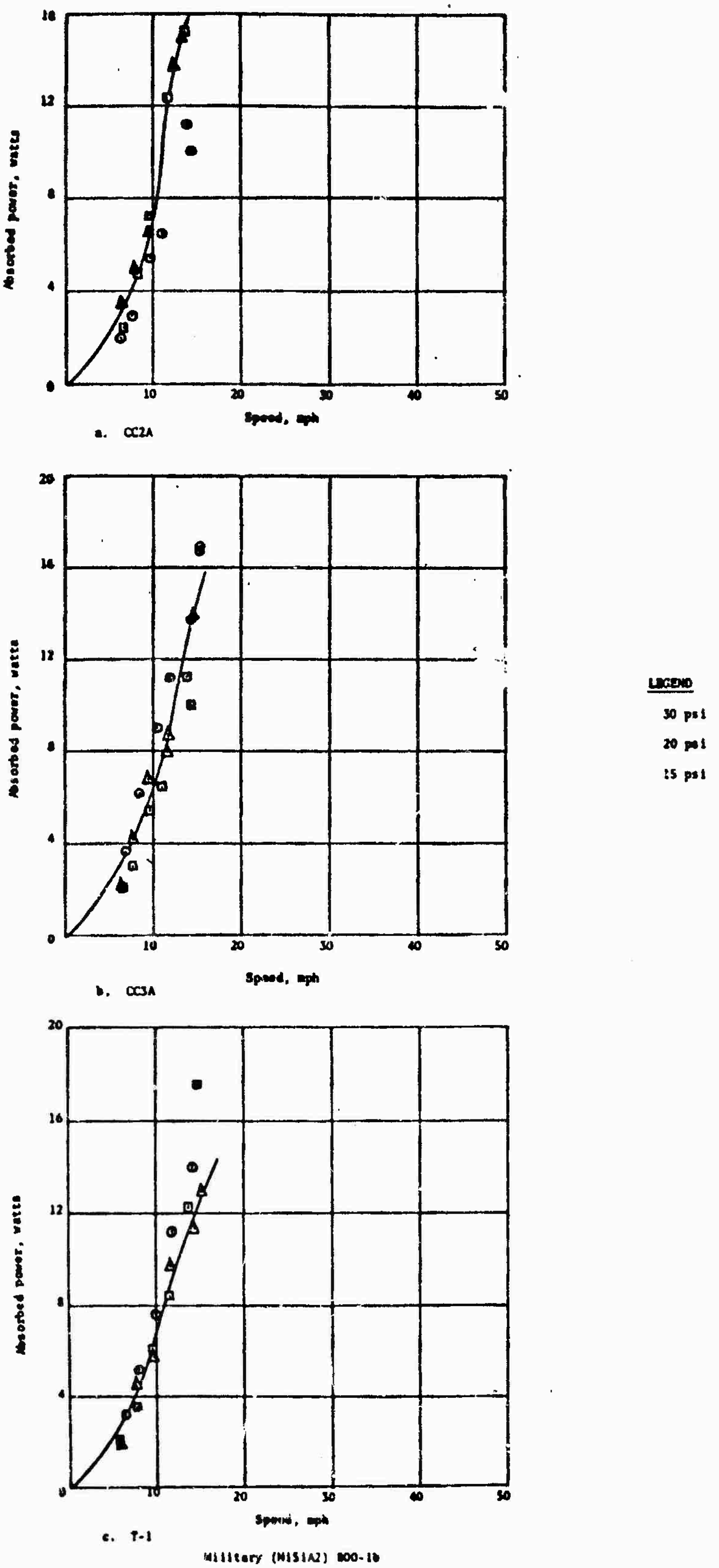

Figure 25. Absorbed power-speed relations for M151A2, 800-lb payload, at 15-, 20-, and 30-psi tire pressures on CC2A, CC3A, and T1

evaluation is still limited.*

77. Ride quality is felt to be the next order of significance since surface roughness has a continuous effect on vehicle performance in many terrain situations. Shock over obstacles is considered to be of next significance.

78. The significance of cargo response and absorbed energy per mile has not been established but is thought to be less than the other vehicle rankings.

79. Based primarily on traverse speed ranking (Table 20), which is felt to reflect the ride characteristics and obstacle shock, all the high-performance commercial vehicles with their rated payloads were able to exceed the performance of the M151A2; and all high-performance commercial vehicles except the CJ5 were able to exceed the performance of the M151A2 with an 800-lb payload. The standard Scout and standard Blazer, both with 800-lb payloads, were the only standard commercial vehicles whose performance exceeded the M151A2.

80. None of the rankings directly reflect the abuse to the vehicles involved in reaching the measured performances. The ride and shock measurements at the driver's seat as well as control speed limits are indicative of the speeds at which the vehicle will be operated. Relations of these speeds to potential vehicle reliability and maintenance problems were not the subject of this study.

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* GO-NO GO capabilities in soft soils, for example, were not reflected in any of the tests.

PART IV: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

81. On the basis of this study, the following conclusions have been reached:

a. Candidate evaluation based on test data

(1) From the special dynamics tests:

(a) The standard Scout with a 1919-lb payload has the best ride quality on cross-country ride test courses. It shows a 10.9-percent increase in speed over the M151A2, which ranks fourth among the 20-vehicle configurations.

(b) The standard Scout with an 800-lb payload has the best ride quality on the secondary road and trails ride test courses with a 39.6-percent increase in speed over the M151A2, which ranks last among the 20-vehicle configurations.

(c) The high-performance Ramcharger with an 1885-lb payload has the best shock-sustaining characteristics during obstacle crossing with a 13.8-percent increase over the M151A2, which ranks fourth among the 20 study vehicle configurations.

(d) Generally, the vehicles with the better ride characteristics have the poorer shock-sustaining characteristics during obstacle crossings.

(2) From the traverse tests:

(a) The high-performance Bronco with an 800-lb payload has the best traverse speed with a 6.3-percent increase over the M151A2, which ranks sixteenth among the 20-vehicle configurations.

(b) Most of the high-performance commercial vehicles are able to acheive a higher traverse speed with both the rated payload and an 800-lb payload then can the M151A2. Only the standard Scout and the standard Blazer with an 800-lb payload are able to exceed the traverse speed of the M151A2.

b. AMM validation. AMM can be used to obtain good traverse speed predictions for the study vehicles, provided the maximum control speed-surface roughness relations are

substituted for (or used in conjunction with) the speed at 6-watt absorbed power-surface roughness relations.

c. AMM data support. Speed control due to steering and handling is identified as a new factor. First analysis indicates that limiting speed for a given vehicle is a function of terrain roughness expressed in terms of rms elevation.

Recommendations

82. It is recommended that the AMM, the ride and shock dynamics relations, and the control speed limit relations developed in this study be used to evaluate the study vehicles over widely ranging variations in terrains, trails, and roads. The terrain developed for the HIMO Study would be ideal for such further evaluations.

83. It is further recommended that research be undertaken to define control speed limits in rough terrain more closely and to develop the capability to predict such limits analytically.

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Table 1*

Vehicle Specifications

Item	CJ-5 basic	CJ-5 hi perf	Bronco basic	Bronco hi perf	Scout basic	Scout hi perf	Blazer basic	Blazer hi perf	Ramcharger basic	Ramcharger hi perf	M151A2
Engine	232-6	304-V8	302-V8	302-V8	196-4	V-345A	250-6	350-V8	225-6	360-V8	L141
Alternator	62amp	62amp	55amp	55amp	61amp	61amp	61amp	61amp	72amp	72amp	60amp
Battery 12v	70amp-hr	70amp-hr	70amp-hr	70amp-hr	73amp-hr	73amp-hr	80amp-hr	80amp-hr	70amp-hr	70amp-hr	2hn
Fuel tank gal	15.5	15.5	12.2	19.7	19	19.0	25	30	24	36	17.7
Power steering	no	yes	no	yes	no	yes	no	yes	no	yes	no
Power brakes	no	yes	no	no	yes	yes	no	yes	yes	yes	no
Heavy duty radiator	no	yes	no	yes	no	yes	no	yes	no	yes	yes
Free wheeling hubs	yes	yes	yes	yes	yes	yes	yes	full time 4whl dr	full time 4whl dr	ful time 4whl dr	no
H D shocks	no	yes	yes	yes	no	yes	no	yes	no	yes	yes
H D springs front	1460	1460	1075	1130	1450	1450	1650	1900	1540	1540	ind susp
H D springs rear	1425	1425	1240	1475	1350	1350	1700	1700	1970	1970	ind susp
Towing device	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes
Removable hardtop	soft	soft	yes	yes	yes	yes	yes	yes	yes	yes	yes
Price	$4,040	$4,568	$4,729	$5,306	$5,445	$6,415	$4,607	$5,477	$4,799	$5,263	$3,800
GVW	3750	3750	4300	4900	6200	6200	6200	6200	6100	6100	3600
Payload	1300	1300	755	1340	1919	1919	1660	1660	1885	1885	1200
Wheelbase	24	84	92	92	100	100	106.5	106.5	106	106	85
Width	59.9	59.9	68.8	68.8	70	70	79.5	79.5	79.5	79.5	64.3
Height	69.5	69.5	70.6	70.6	66.5	66.5	69.5	69.5	67.5	67.5	71
Length	138.9	138.9	152.1	152.1	165.8	165.8	184.5	184.5	184.5	184.5	132.7
HP/net	100@3600	150@4200	144@4000	144@4000	92@3600	158@3600	105@3800	145@3800	110@4000	140@4000	61@4000
HP/ton	53	80	67	59	29.5	51	33.8	46.8	36.1	46	34
Tires (mud & snow)	700X15	6.00X16	700X150	hi flotatn	HR78X15	HR78X15	7.00X15	10.00X15	7.00X15D	10.00X15	7.00X16

(Continued)

* Extracted from MASSTER Test Plan No. FM300.

Table 1 (Concluded)

Item	CJ-5		Bronco		Scout		Blazer		Ramcharger		
	basic	hi perf	basic	hi perf	basic	hi perf	basic	hi perf	basic	hi perf	M151A2
Axle front	2200	2200	3000	3000	3200	3200HD	3600	3600	3500	3500	
Axle rear	2700	3040	2900	3300	3500	3500	3750	3750	3600	3600	
Patio, axle	4.27	4.27	4.11	3.50	4.09	3.54	4.11	3.73	3.9	3.55	4.86
Transmission	3 spd	3 spd	3 spd	3 spd-auto	3 spd	3 spd-auto	3 spd	3 spd-auto	3 spd	A727 auto	4 spd
Ratios	3.00	3.00	3.41	2.46	2.997	2.45	2.85	2.52	3.02	2.45	5.72
	1.744	1.744	1.86	1.46	1.55	1.45	1.68	1.52	1.76	1.45	3.179
	1.00	1.00	1.00	1.00 2.10 conv	1.00	1.00 2.03 conv	1.00	1.00 2.10 conv	1.00	1.00 2.03 conv	1.674 1.00
Transfer case	DANA#20	DANA#20	DANA#20	DANA#20	sgl spd	TC-145	DANA#20	NP203	NP203	NP203	military
Ratios	2.03	2.03	2.03	2.03	1.00	2.03	2.03	2.01	2.01	2.01	
	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00

Table 2

Tire Pressures Used During Testing

Vehicle	Tire Pressure, psi	
	Front	Rear
Standard Commercial		
Ramcharger	35	35
Blazer	45	30
CJ5	35	35
Scout	30	30
Bronco	45	45
High-Performance Commercial		
Ramcharger	30	30
Blazer	30	30
CJ5	30	30
Scout	30	30
Bronco	45	45
Military		
M151A2	20	20

Table 3

FORT HOOD COURSE - APRIL-MAY 74

TERRAIN UNIT CHARACTERIZATION - PRIMARY COURSE

TER UNIT NO	UNIT DIST FT	SFC. TYPE+	<< SURFACE COMPOSITION >> STRENGTH 0-6 IN RCI DRY	AVG	WET	SLOPE %	DIR+	<<<<<<<< SURFACE GEOMETRY >>>>>>>> <<<< OBSTACLE PARAMETERS >>>> << DIMENSIONS >> ANGLE DEG	HT. IN	WIDTH IN	LENGTH FT	SPA FT	SPA. TYPE+	ROUGH RMS	<<<<< VEGETATION >>>>> << SPACING OF STEMS, FT, WITH >> < DIAMETERS GREATER THAN, IN > 0.3	1.8	2.4	3.9	5.9	7.0	8.7	9.C	REC DIST FT	HOR CURVES DEG	ROAD TYPE+
1	4059	1	750	750	756	0.5	3	-*	-	-	-	-	*	0.2	**	-	-	-	-	-	-	-	164	7.0	2
2	590	1	750	750	750	3.7	1	-	-	-	-	-	*	0.3	*	-	-	-	-	-	-	-	164	6.0	2
3	415	1	750	750	750	4.0	3	-	-	-	-	-	*	0.4	*	-	-	-	-	-	-	-	154	7.9	2
3	1037	1	756	750	750	0.2	1	-	-	-	-	-	*	0.3	*	-	-	-	-	-	-	-	164	0.	2
4	734	1	750	750	750	0.6	1	-	-	-	-	-	*	0.1	*	-	-	-	-	-	-	-	164	6.0	2
4	645	1	750	750	750	0.5	3	-	-	-	-	-	*	0.2	*	-	-	-	-	-	-	-	164	6.5	2
5	735	1	750	750	750	1.3	1	-	-	-	-	-	*	0.1	*	-	-	-	-	-	-	-	164	0.	2
8	555	1	750	750	750	0.7	3	-	-	-	-	-	*	0.3	-	-	-	-	-	-	-	-	164	5.6	2
4	313	1	750	750	750	5.2	3	-	-	-	-	-	*	1.3	*	-	-	-	-	-	-	-	144	0.	2
10	472	1	750	750	750	0.4	3	-	-	-	-	-	*	0.2	*	-	-	-	-	-	-	-	164	10.7	3
11	805	1	750	750	750	0.7	1	-	-	-	-	-	*	0.1	*	-	-	-	-	-	-	-	164	6.7	2
12	433	1	750	750	750	6.5	3	-	-	-	-	-	*	2.3	*	-	-	-	-	-	-	-	154	12.0	3
13	557	1	750	456	647	3.3	1	-	-	-	-	-	*	0.3	*	-	-	-	-	-	-	-	164	0.	3
13	367	1	750	750	750	10.4	1	-	-	-	-	-	*	0.8	*	-	-	-	-	-	-	-	164	10.3	3
15	554	1	750	750	750	14.1	1	160	12.0	340.0	403.0	296	2	2.6	*	-	-	-	-	-	-	-	164	5.0	3
14	1070	1	750	456	547	2.3	1	-	-	-	-	-	*	1.0	*	-	-	-	-	-	-	-	154	0.	3
17	617	1	750	703	555	2.6	1	-	-	-	-	-	*	0.9	*	-	-	-	-	-	-	-	164	15.0	3
18	1465	1	750	750	750	1.6	3	-	-	-	-	-	*	1.5	*	-	-	-	-	-	-	-	164	0.	3
16	857	1	750	444	536	0.5	3	-	-	-	-	-	*	0.8	*	-	-	-	-	-	-	-	164	8.0	3
30	429	1	750	646	541	1.7	1	-	-	-	-	-	*	1.0	*	-	-	-	-	-	-	-	164	5.0	3
31	566	1	750	554	361	3.5	2	-	-	-	-	-	*	3.0	*	-	-	-	-	-	-	-	164	0.	3
22	875	1	750	667	564	4.7	1	-	-	-	-	-	*	2.0	*	-	-	-	-	-	-	-	164	0.	3
23	733	1	750	576	403	2.7	2	-	-	-	-	-	*	1.1	-	-	-	-	-	-	-	-	164	0.	3
24	460	1	750	574	403	3.3	3	-	-	-	-	-	*	1.1	-	-	-	-	-	-	-	-	164	0.	3
39	366	1	750	432	513	1.1	2	-	-	-	-	-	*	0.8	*	-	-	-	-	-	-	-	164	7.0	3
25	553	1	750	436	523	1.7	2	-	-	-	-	-	*	0.8	*	-	-	-	-	-	-	-	164	0.	3
27	515	1	750	435	533	2.2	3	-	-	-	-	-	*	1.3	*	-	-	-	-	-	-	-	164	0.	3
28	1171	1	750	647	544	1.0	1	-	-	-	-	-	*	1.1	*	-	-	-	-	-	-	-	154	0.	3
29	431	1	750	676	505	1.7	3	-	-	-	-	-	*	1.3	*	-	-	-	-	-	-	-	166	0.	3
30	550	1	750	553	416	2.7	3	90	6.8	9.2	1.2	8	1	1.4	*	-	-	-	-	-	-	-	40	0.	4
31	550	1	750	750	750	3.5	3	-	-	-	-	-	*	2.2	*	-	-	-	-	-	-	-	164	17.8	3
32	793	1	750	750	756	1.7	3	-	-	-	-	-	*	1.9	*	-	-	-	-	-	-	-	164	5.5	3
33	527	1	750	667	424	3.4	3	50	5.9	10.1	1.3	13	1	3.9	*	-	-	-	-	-	-	-	40	0.	4
34	513	1	750	690	631	3.6	1	50	6.6	11.6	1.5	11	1	1.9	*	-	-	-	-	-	-	-	95	0.	4
35	315	1	750	563	576	2.5	3	80	5.9	8.4	1.1	13	1	1.8	*	-	-	-	-	-	-	-	50	0.	4
34	590	1	750	646	549	6.1	3	90	7.8	15.3	2.0	13	1	1.9	*	-	-	-	-	-	-	-	91	0.	4
37	723	1	750	750	750	4.5	2	-	-	-	-	-	*	1.8	*	-	-	-	-	-	-	-	164	8.2	3
38	1152	1	750	750	750	8.7	3	200	16.0	340.0	453.0	1152	2	1.5	*	-	-	-	-	-	-	-	154	6.2	3
39	386	1	750	663	614	26.0	3	-	-	-	-	-	*	0.7	*	-	-	-	-	-	-	-	154	4.5	3
40	457	1	750	652	514	3.5	3	155	6.0	240.0	452.8	497	2	1.6	*	-	-	-	-	-	-	-	164	9.5	3
41	1250	1	750	750	756	0.5	1	-	-	-	-	-	*	0.2	*	-	-	-	-	-	-	-	164	5.5	2
42	550	1	750	750	750	3.7	1	-	-	-	-	-	*	0.3	-	-	-	-	-	-	-	-	164	8.0	2
43	415	1	750	750	750	6.0	3	-	-	-	-	-	*	0.4	*	-	-	-	-	-	-	-	164	6.0	2
42	501	1	510	320	147	1.3	3	233	10.0	60.0	452.0	450	2	1.2	*	-	-	-	-	-	-	-	145	0.	4
45	161	1	555	554	445	10.3	1	150	10.0	240.0	452.0	161	2	1.0	*	-	-	-	-	-	-	-	72	0.	4
44	415	1	664	430	176	1.5	3	-	-	-	-	-	*	1.0	*	-	-	-	-	-	-	-	150	0.	4
40	562	1	330	235	140	3.5	1	-	-	-	-	-	*	1.6	-	-	-	-	-	-	-	-	150	0.	4
48	395	1	530	355	246	2.5	2	-	-	-	-	-	*	0.7	*	-	-	-	-	-	-	-	150	0.	4
49	444	1	354	242	125	3.0	2	157	13.8	40.0	454.0	444	2	1.6	*	-	-	-	-	-	-	-	150	0.	4
50	315	1	703	690	475	6.5	3	157	6.0	48.0	492.0	319	2	3.4	*	-	-	-	-	-	-	-	150	0.	6
51	1315	1	335	151	143	0.9	3	-	-	-	-	-	*	0.5	*	-	-	-	-	-	-	-	150	0.	4
59	535	1	415	373	131	3.3	2	203	8.0	304.0	493.0	173	2	1.3	*	-	-	-	-	-	-	-	94	0.	4

+ See table __ for surface type, slope direction, road class, and obstacle spacing type.

* Indicates no obstacle present.

** Indicates no measureable influence on vehicle performance; use maximum values allowed by model.

Table 4

Surface Roughness-Speed Relations for Study Vehicles

	Standard Vehicles										High Performance Vehicles										Military	
	Ramcharger		Blazer		CJ5		Scout		Bronco		Ramcharger		Blazer		CJ5		Scout		Bronco		M151A2	
rms Elevation in	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph	6-watt Speed mph	Maximum Control Speed mph
Cross-Country Units - 800 lb Payload																						
0.5	50+	44	41	42	50+	40	50+	43	50+	42	50+	42	50+	44	50+	37	48	41	43	36	44	41
0.6	42	39	35	37	40	35	43	38	41	36	43	37	43	39	40	34	39	35	35	34	35	37
0.8	25	32	25	30	22	30	29	31	26	29	20	30	26	32	30	28	27	28	24	28	24	30
1.2	12	20	13	20	11	21	13	21	12	18	11	20	12	20	14	17	13	16	12	19	12	19
1.4	9	16	9	22	8	17	10	17	9	14	9	16	9	16	9	14	9	13	9	16	10	15
1.8	8	13	7	14	7	15	9	15	8	12	[illegible]	13	8	13	8	11	8	12	8	14	9	14
2.0	8	13	7	14	7	14	9	15	7	11	8	12	7	12	8	11	7	11	8	13	9	13
8.0	7	12	6	13	6	13	8	14	6	10	7	11	6	11	7	10	6	9	7	12	8	12
Cross-Country Units - Rated Payload																						
0.5	50+	44	41	41	50+	41	50+	42	--	--	50+	42	50+	43	50	36	48	43	50+	39	--	--
0.6	43	38	33	36	42	36	46	38	--	--	40	37	43	39	41	33	40	36	45	34	--	--
0.8	24	31	22	29	23	30	32	31	--	--	19	30	27	32	27	28	28	28	26	28	--	--
1.2	11	20	11	19	12	21	15	21	--	--	11	19	12	21	12	19	13	16	12	18	--	
1.4	9	15	8	16	9	18	10	17	--	--	9	16	9	17	9	16	10	13	10	16	--	--
1.8	8	13	7	14	8	15	8	15	--	--	8	12	7	13	8	12	9	12	9	14	--	--
2.0	8	12	7	13	7	14	8	14	--	--	8	11	6	12	8	12	9	12	9	14	--	--
8.0	7	11	6	12	6	13	7	13	--	--	7	10	5	11	7	11	8	11	8	13	--	--

(Continued)

Table 4 (Concluded)

rms Elevation in.	Standard Vehicles: [illegible] 6-watt Speed mph	[illegible] Maximum Control Speed mph	Blazer 6-watt Speed mph	Blazer Maximum Control Speed mph	CJ5 6-watt Speed mph	CJ5 Maximum Control Speed mph	Scout 6-watt Speed mph	Scout Maximum Control Speed mph	Bronco 6-watt Speed mph	Bronco Maximum Control Speed mph	High Performance Vehicles: Rancharger 6-watt Speed mph	Rancharger Maximum Control Speed mph	Blazer 6-watt Speed mph	Blazer Maximum Control Speed mph	CJ5 6-watt Speed mph	CJ5 Maximum Control Speed mph	Scout 6-watt Speed mph	Scout Maximum Control Speed mph	Bronco 6-watt Speed mph	Bronco Maximum Control Speed mph	Military M151A2 6-watt Speed mph	Military M151A2 Maximum Control Speed mph
Secondary Roads and Trails Units - 600 lb Payload																						
0.4	50+	[illegible]	[illegible]	48	[illegible]	[illegible]	50+	50+	50+	46	50+	50+	50+	50+	50+	47	48	50+	50+	46	45	46
0.6	[illegible]	44	46	42	[illegible]	40	50+	50+	37	41	50+	45	50-	50+	50+	40	43	44	50+	39	35	42
0.8		39	38	38	[illegible]	[illegible]	41	[illegible]	33	37	39	38	50	47	50+	37	38	39	47	34	29	38
[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	[illegible]	29	[illegible]	25	29	17	28	17	35	50+	29	28	31	33	27	21	30
[illegible]	[illegible]	24	18	[illegible]	[illegible]	[illegible]	[illegible]	30	19	23	12	22	12	27	28	24	21	25	22	22	15	24
[illegible]	[illegible]	14	8	[illegible]	[illegible]	[illegible]	12	[illegible]	9	13	8	14	7	19	9	16	9	16	10	15	9	15
[illegible]	[illegible]	[illegible]	6	19	[illegible]	[illegible]	8	[illegible]	6	9	6	10	6	16	5	9	7	11	6	9	7	11
[illegible]	4	7	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	5	8	5	9	5	9	4	8	6	10	5	8	6	10
Secondary Roads and Trails - Rated Payload																						
0.4	50+	50	48	47	50+	43	50+	50+	--	--	50+	48	50+	50+	50+	47	50+	50+	50+	47	--	--
0.6	50+	44	41	42	50+	40	50+	47	--	--	50+	45	42	50+	50+	40	50+	49	48	43	--	--
0.8	[illegible]	[illegible]	36	36	50+	[illegible]	41	42	--	--	38	38	30	48	50+	36	50+	42	41	37	--	--
1.2	[illegible]	30	22	[illegible]	50+	[illegible]	25	32	--	--	17	28	18	35	50+	26	30	33	29	30	--	--
1.5	16	24	19	25	[illegible]	[illegible]	18	26	--	--	13	22	14	26	33	24	20	26	21	24	--	--
2.0	9	14	9	15	8	16	10	17	--	--	9	15	10	14	8	16	9	16	10	15	--	--
2.5	6	[illegible]	6	10	6	10	8	[illegible]	--	--	6	10	6	10	5	9	7	10	7	99	--	--
8.0	[illegible]	[illegible]	[illegible]	9	[illegible]	9	7	10	--	--	5	9	5	9	4	8	6	9	6	8	--	--

Table 5

Ranking of Vehicles with Respect to Ride Quality*

Vehicle	Payload, lb	Speed, mph at 6-Watts Absorbed Power for rms (in.) Indicated			Average Speed mph	Percent M151A2 Speed	Rank
		0.6	1.2	2.0			
			Cross-Country				
Standard Scout	1919	38**	15	8	20.3	110.9	1
Standard Scout	800	38**	13	9	20.0	109.3	2
Standard Ramcharger	800	39**	12	8	19.7	107.7	3
High Performance Blazer	800	39**	12	7	19.3	105.5	4
High Performance Scout	1919	36**	13	9	19.3	105.5	4
Standard Ramcharger	1885	38**	11	8	19.0	103.8	6
High Performance Blazer	1660	39**	12	6	19.0	103.8	6
High Performance Ramcharger	800	37**	11	8	18.7	102.2	8
High Performance Ramcharger	1885	37**	11	8	18.7	102.2	8
High Performance CJ5	800	34**	14	8	18.7	102.2	8
Standard Blazer	800	35	13	7	18.3	100.0	11
Standard CJ5	1300	36**	12	7	18.3	100.0	11
Standard Bronco	800	36**	12	7	18.3	100.0	11
High Performance Scout	800	35**	13	7	18.3	100.0	11
High Performance Bronco	1340	34**	12	9	18.3	100.0	11
M151A2	800	35	12	8	18.3	100.0	11
High Performance Bronco	800	34**	12	8	18.0	98.4	17
Standard CJ5	800	35**	11	7	17.7	96.7	18
High Performance CJ5	1300	33**	12	8	17.7	96.7	18
Standard Blazer	1660	33**	11	7	17.0	92.9	20
			Roads and Trails				
Standard Scout	800	50	29	12	30.3	139.6	1
High Performance Scout	1919	49**	30	9	29.3	135.0	2
Standard Scout	1919	47**	25	10	27.3	125.8	3
High Performance Scout	800	43	28	9	26.7	123.0	4
High Performance Bronco	1340	41**	29	10	26.7	123.0	4
Standard CJ5	800	40**	28**	11	26.3	121.2	6
High Performance CJ5	800	40**	29	9	26.0	119.8	7
High Performance Bronco	800	39**	27	10	25.3	116.6	8
Standard CJ5	1300	40	28	8	25.3	116.6	8
High Performance CJ5	1300	40**	28**	8	25.3	116.6	8
Standard Blazer	1660	42	25	7	25.3	116.6	8
Standard Ramcharger	1885	44**	22	9	25.0	115.2	12
Standard Blazer	800	42**	25	8	25.0	115.2	12
High Performance Blazer	800	50	17	7	24.7	113.8	14
Standard Ramcharger	800	44**	21	7	24.0	110.6	15
Standard Bronco	800	37	25	9	23.7	109.2	16
High Performance Ramcharger	1885	45**	17	9	23.7	109.2	16
High Performance Blazer	1660	42	18	10	23.3	107.4	18
High Perforance Ramcharger	800	45**	17	8	23.3	107.4	18
M151A2	800	35	21	9	21.7	100.0	20

* Ride quality ranking based on average vehicle speed at 6-watt absorbed power for rms elevation values of 0.6, 1.2, and 2.0 in. except as noted.
** Maximum control speed reached before 6-watt absorbed power obtained.

Table 6

Ranking of Vehicles with Respect to Cargo Responses Cross-Country

Vehicle	Payload, lb	Vehicle Speed, mph, at 0.4-g rms* for rms Elevation, in., Indicated 1.8	1.4	0.5	Average Speed mph	Percent M151A2 Speed	Rank
Standard Scout	800	9	9	30	16.0	106.7	1
High-performance Ramcharger	1885	8	8	30	15.3	102.0	2
M151A2	800	8	9	28	15.0	100.0	3
Standard Scout	1919	5	5	26	12.0	80.0	4
High-performance Scout	800	8	8	20	12.0	80.0	4
Standard Ramcharger	1885	7	8	19	11.3	75.3	6
High-performance Blazer	800	7	7	19	11.0	73.3	7
Standard Blazer	1660	7	7	19	11.0	73.3	7
High-performance CJ5	1300	8	8	16	10.7	71.3	7
High-performance CJ5	800	7	7	17	10.3	68.7	10
Standard Bronco	800	7	7	16	10.0	66.7	11
High-performance Bronco	1340	7	7	16	10.0	66.7	11
High-performance Ramcharger	800	7	7	15	9.7	64.7	13
Standard Blazer	800	6	7	16	9.7	64.7	13
Standard CJ5	800	5	5	16	9.7	64.7	13
Standard CJ5	1330	6	7	15	9.3	62.0	16
High-performance Scout	1919	8	7	13	9.3	62.0	16
High-performance Blazer	1660	5	6	15	8.7	58.0	18
Standard Ramcharger	800	6	6	13	8.3	55.3	19
High-performance Bronco	800	7	7	10	8.0	53.3	20

* Cargo response ranking based on vehicle speed at 0.4-*g* rms composite acceleration.

Table 7

Ranking of Vehicles with Respect to Cargo Responses on Roads and Trails

Vehicle	Payload, lb	Vehicle Speed, mph, at 0.4-g rms* for rms Elevation, in., Indicated				Average Speed mph	Percent M151A2 Speed	Rank
		2.3	1.2	0.8	0.4			
M151A2	800	10	19	33	43	26.2	100.0	1
Standard Scout	800	8	18	30	43	26.0	99.2	2
High-performance Scout	1919	8	14	23	42	21.8	83.2	3
Standard Scout	1919	6	12	22	45	21.2	80.9	4
High-Performance Ramcharger	1885	9	14	22	37	20.5	78.2	5
High-Performance Blazer	1660	8	11	23	35	19.2	73.3	6
Standard Blazer	1660	8	12	20	33	18.3	69.8	7
High-performance Bronco	1340	9	13	20	29	17.8	67.9	8
High-performance CJ5	1300	7	13	20	30	17.5	66.8	9
High-performance Ramcharger	800	6	13	20	29	17.0	64.9	10
High-performance Scout	800	6	11	15	35	16.8	64.1	11
Standard Blazer	800	6	11	19	31	16.8	64.1	11
Standard Ramcharger	1885	7	12	17	30	16.5	63.0	13
High-performance CJ5	800	7	11	16	30	16.0	61.1	14
High-performance Blazer	800	6	10	13	33	15.5	59.2	15
Standard Bronco	800	6	11	16	28	15.2	58.0	16
Standard CJ5	800	6	10	18	26	15.0	57.2	17
Standard CJ5	1300	7	11	19	23	15.0	57.2	17
Standard Ramcharger	800	7	10	15	26	14.5	55.3	19
High-performance Bronco	800	5	10	16	20	12.8	48.8	20

* Cargo response ranking based on average vehicle speed at 0.4-g rms composite acceleration.

Table 8

Obstacle Height and Corresponding Speed at 2.5-g Vertical Acceleration

Vehicle	Payload, lb	Speed, mph, at 2.5-g Vertical Acceleration for Obstacle Height, in., Indicated						
		2	3	4	5	6	7	8
Standard Commercial								
Ramcharger	800	60	60	60	18	8	6	4
	1885	60	60	60	20	8	6	4
Blazer	800	60	43	29	17	9	5	4
	1660	60	60	60	19	8	5	4
CJ5	800	60	23	12	9	7	5	4
	1300	60	26	15	10	6	4	2
Scout	800	60	40	26	16	8	3	2
	1919	60	30	19	14	9	5	2
Bronco	800	60	22	14	11	9	7	6
High-Performance Commercial								
Ramcharger	800	60	60	60	26	11	4	2
	1885	60	60	60	36	20	9	2
Blazer	800	60	60	60	22	11	6	4
	1660	60	60	60	21	10	5	2
CJ5	800	60	35	22	14	8	4	2
	1300	60	23	13	10	7	5	2
Scout	800	60	32	18	11	7	4	2
	1919	60	25	16	12	8	5	2
Bronco	800	60	23	14	10	7	4	2
	1340	60	43	28	16	8	4	2
Military								
M151A2	800	60	60	60	28	8	5	4

Table 9

Ranking of Vehicles with Respect to Shock*

Vehicle	Payload, lb	Speed,* mph, at 2.5-g Acceleration for Obstacle Height, in., Indicated: 4	6	8	Average Speed mph	Percent M151A2 Speed	Rank
High-performance Ramcharger	1885	60	20	2	27.3	113.8	1
High-performance Blazer	800	60	11	4	25.0	104.2	2
High-performance Ramcharger	800	60	11	2	24.3	101.2	3
Standard Blazer	1660	60	8	4	24.0	100.0	4
Standard Ramcharger	800	60	8	4	24.0	100.0	4
Standard Ramcharger	1885	60	8	4	24.0	100.0	4
M151A2	800	60	8	4	24.0	100.0	4
High-performance Blazer	1660	60	10	2	24.0	100.0	4
Standard Blazer	800	29	9	4	14.0	58.3	9
High-performance Bronco	1340	28	8	2	12.7	52.9	10
Standard Scout	800	26	8	2	12.0	50.0	11
High-Performance CJ5	800	22	8	2	10.7	44.6	12
Standard Scout	1919	14	9	6	9.7	40.4	13
Standard Bronco	800	14	9	6	9.7	40.4	14
High-performance Scout	800	18	7	2	9.0	37.5	15
High-performance Scout	1919	16	8	2	8.7	36.2	16
High-performance Bronco	800	14	7	2	7.7	32.1	17
Standard CJ5	800	12	7	4	7.7	32.1	17
Standard CJ5	1300	15	6	2	7.7	32.1	17
High-performance CJ5	1300	13	7	2	7.0	29.2	20

* Shock rankings based on average speed at 2.5-g vertical acceleration.

Table 10

Summary of Average Vehicle Speed Data for Traverse

Vehicle	Payload, lb	Traverse Speed, mph								
		Military Drivers								WES Driver*
		Allison	Baker	Campbell	Ellis	Leigh	Nixe	Shaw	White	Lewis
Standard Commercial										
Ramcharger	800			20.3		18.7			18.5	28.2
	1885		18.6	22.3		21.0				27.9
Blazer	800		23.0	21.8				24.1		29.4
	1660		23.1	22.4				22.0		28.3
CJ5	800				23.6	22.7			21.8	25.2
	1300				22.8	23.2			21.6	26.2
Scout	800				23.4	26.0	24.2			30.6
	1919				21.0	24.9	22.2			26.9
Bronco	800	26.7		25.3					25.0	29.2
High-Performance Commercial										
Ramcharger	800	24.9		22.0		24.3				30.6
	1885	22.4		19.0		22.5				30.4
Blazer	800		26.1			24.1		22.3		30.4
	1660		22.1			26.3		23.3		31.1
CJ5	800	24.8		24.6					23.3	28.5
	1300	24.5		25.5					23.2	29.7
Scout	800	24.4		27.1			25.3			30.6
	1919	28.0		27.0			26.9			30.2
Bronco	800	27.2	26.2						24.5	30.4
	1340	26.9	25.0						26.1	29.8
Military										
M151A2	800	25.1					22.8		24.0	29.1

* WES driver considered control driver.

Table 11

Comparison of Average Vehicle Speeds on Secondary Roads, Trails, and Traverse

Vehicles	Payload, lb	Speed, mph: Secondary Road Units	Speed, mph: Trail Units	Speed, mph: Traverse
Standard Commercial				
Ramcharger	800	40.7	24.3	28.2
	1885	40.6	24.0	27.9
Blazer	800	41.6	25.5	29.4
	1660	40.6	24.5	28.3
CJ5	800	39.5	21.3	25.2
	1300	41.0	22.1	26.2
Scout	800	39.9	26.5	30.6
	1919	40.3	22.9	26.9
Bronco	800	42.4	25.1	29.2
High-Performance Commercial				
Ramcharger	800	45.8	26.1	30.6
	1885	43.7	26.2	30.4
Blazer	800	46.0	25.8	30.4
	1660	45.5	26.6	31.1
CJ5	800	41.3	24.5	28.5
	1300	41.3	25.8	29.7
Scout	800	42.6	26.6	30.6
	1919	43.6	26.0	30.2
Bronco	800	40.4	26.9	30.4
	1540	41.6	25.9	29.8
Military				
M151A2	800	40.9	25.3	29.1

Table 12

Ranking of Vehicles with Respect to Traverse Trail-Unit Speed Performance

Vehicles	Payload, lb	Trail Unit Speeds, mph	Percent M151A2 Speed	Rank
High-performance Bronco	800	26.9	106.3	1
High-performance Blazer	1660	26.6	105.1	2
High-performance Scout	800	26.6	105.1	2
Standard Scout	800	26.5	104.7	4
High-performance Ramcharger	1885	26.2	103.6	5
High-performance Ramcharger	800	26.1	103.2	6
High-performance Scout	1919	26.0	102.8	7
High-performance Bronco	1300	25.9	102.4	8
High-performance Blazer	800	25.8	102.0	9
High-performance CJ5	1300	25.8	102.0	9
Standard Blazer	800	25.5	100.8	11
M151A2	800	25.3	100.0	12
Standard Bronco	800	25.1	99.2	13
Standard Blazer	1660	24.5	96.8	14
High-performance CJ5	800	24.5	96.8	14
Standard Ramcharger	800	24.3	96.0	16
Standard Ramcharger	1885	24.0	94.9	17
Standard Scout	1919	22.9	90.5	18
Standard CJ5	1300	22.1	87.4	19
Standard CJ5	800	21.3	84.2	20

Table 13

Ranking of Vehicles with Respect to Absorbed Energy

Per mile of Traverse

Vehicle	Payload lb	Absorbed Energy watt per mile	Percent M151A2 Absorbed Energy	Rank
Standard Scout	1919	0.17	48.6	1
Standard Scout	800	0.19	54.3	2
High-performance CJ5	1300	0.23	66.5	3
High-performance Scout	800	0.24	68.5	4
Standard CJ5	800	0.24	68.5	4
High-performance CJ5	800	0.25	71.4	6
Standard Blazer	1660	0.25	71.4	6
Standard CJ5	1300	0.26	74.3	8
Standard Blazer	800	0.27	77.1	9
High-performance Ramcharger	1885	0.30	85.7	10
Standard Ramcharger	800	0.31	88.6	11
Standard Ramcharger	1885	0.32	91.4	12
High-performance Scout	1919	0.33	94.3	13
High-performance Bronco	800	0.34	97.1	14
High-performance Blazer	1660	0.34	97.1	14
M151A2	800	0.35	100.0	16
High-performance Blazer	800	0.36	102.[illegible]	17
High-performance Bronco	1340	0.38	108.5	18
Standard Bronco	800	0.43	122.9	19
High-performance Ramcharger	800	0.47	134.3	20

* Based on absorbed energy.

Table 14

Comparison of Performances of Military and WES Drivers*

Vehicle	Payload, lb	Speed, mph Military Driver	WES Driver	Percent Difference**
Standard Commercial				
Ramcharger	800	19.2	28.2	-32
	1885	20.6	27.9	-26
Blazer	800	23.0	29.4	-22
	1660	22.5	28.3	-20
CJ5	800	22.7	25.2	-11
	1300	22.5	26.2	-14
Scout	800	24.5	30.6	-19
	1900	22.9	26.9	-16
Bronco	800	25.7	29.2	-12
High-Performance Commercial				
Ramcharger	800	23.7	30.6	-22
	1885	21.3	30.4	-30
Blazer	800	24.2	30.4	-20
	1660	23.9	31.1	-23
CJ5	800	24.2	28.5	-15
	1300	24.4	29.7	-18
Scout	800	25.6	30.6	-16
	1919	27.3	30.2	-10
Bronco	800	26.0	30.4	-15
	1340	26.0	29.8	-13
Military				
M151A2	800	24.0	29.1	-18

* Comparison based on vehicle speed on traverse.

** Percent difference = $\frac{\text{speed of military driver - speed of WES driver}}{\text{speed of WES driver}}$

Table 15

Vehicle Characteristics Used in the AMC-74 Model

Vehicle Charac- teristics No.	Standard Commercial Vehicles									High-Performance Commercial Vehicles										Military
	800-lb payload					Rated Payload				800-lb Payload					Rated Payload					800-lb payload
	Ram-Charger	Blazer	CJ5	Scout	Bronco	Ram-charger	Blazer	CJ5	Scout	Ram-charger	Blazer	CJ5	Scout	Bronco	Ram-charger	Blazer	CJ5	Scout	Bronco	M151A2
1	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4
2	5370	5520	3680	4860	4545	6455	6380	4180	5979	5720	5880	4050	5150	4590	6740	6710	4475	6250	5150	3130
3	800	800	800	800	800	1885	1660	1300	1919	800	800	800	800	800	1885	1660	1300	1919	1340	800
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6	4	6	4	4	6	4	6	4	4	4	4	8	4	2	4	4	8	4	6	6
7	110	105	100	92	144	110	105	100	92	140	145	150	158	144	140	145	150	158	144	61
8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	80	80	60	70	69	80	80	60	70	79	79	60	70	69	79	79	60	70	69	64
11	184	184	139	166	152	184	184	139	166	184	184	139	166	152	184	184	139	166	152	133
12	7	7	6	7	6	7	7	6	7	9	9.7	7	7	6	9	9.7	7	7	6	7
13	15	15	16	15	15	15	15	16	15	15	15	15	15	15	15	15	15	15	15	16
14	35	45	35	30	45	35	45	35	30	30	30	30	30	45	30	30	30	30	45	20
15	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
16	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
17	10.2	10.0	9.5	9.7	13.0	10.2	10.0	9.5	9.7	11.8	10.5	11.0	9.7	12.0	11.8	10.5	11.0	9.7	12.0	12.7
18	9.5	8.0	8.0	6.9	9.0	9.5	8.0	8.0	6.9	8.8	8.5	9.0	6.9	9.0	8.8	8.5	9.0	6.9	9.0	9.0
19	19	19	14	18	20	19	19	14	18	20	17	9	18	21	20	17	9	18	21	18
20	27	25	48	26	37	27	25	48	26	29	28	43	23	45	29	28	43	23	45	31
21	20.0	19.5	19.0	19.5	19.0	20.0	19.5	19.0	19.5	20	20	21	20	20	20	20	21	20	20	18.0
22	42	42	52	48	45	42	42	52	48	43	42	54	38	46	43	42	54	38	46	66
23	31.5	31.5	30.5	28.2	19.0	31.5	31.5	30.5	28.2	32.2	32.3	31.5	28.2	31.1	32.2	32.3	31.5	28.2	31.1	30.0
24	20.0	19.5	19.0	19.5	19.0	20.0	19.5	19.0	19.5	20	20	21	20	20	20	20	21	20	20	18.0
25	106	106	84	100	92	106	106	84	100	106	106	84	100	92	106	106	84	100	92	85
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	8.0	17.0	17.7	10.0	12	8.0	17.0	17.7	10.0	12.0	17.0	17.7	10.0	17.7	12.0	17.0	17.7	10.0	17.7	11.6
28	106	106	84	100	92	106	106	84	100	106	106	84	100	92	106	106	84	100	92	85
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	14.6	14.6	14.6	13.7	14.2	14.6	14.6	14.6	13.7	14.9	14.6	14.2	13.7	14.4	14.9	14.6	14.2	13.7	14.4	13.4
33	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8
34	5370	5520	3680	4860	4545	6455	6380	4180	5979	5720	5880	4050	5150	4590	6740	6710	4475	6250	5150	3130
35	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
36	41.0	38.0	54.4	37.9	63.4	34.1	32.9	47.9	30.8	49.0	49.3	74.1	61.4	62.7	41.5	43.2	67.0	50.6	55.9	39.0
37	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Auto	Auto	Manual	Auto	Auto	Auto	Auto	Manual	Auto	Auto	Manual

Table 16

Key to Vehicle Characteristics
Used by AMC-74 Mobility Model

Item No.	Vehicle Characteristics	Dimensions	Characteristic Application*
1	Vehicle configuration	-	B
2	Gross vehicle weight (cross-country)	lb	B
3	Payload	tons	B
4	Track type	-	T
5	Grouser height for tracks; number of tires for wheeled	in.	B
6	Tire ply rating	-	W
7	Gross rated horsepower	bhp	B
8	Number of tracks or tires	-	B
9	Number of axles	-	W
10	Vehicle width	in.	B
11	Vehicle length	in.	B
12	Track width or nominal tire width	in.	B
13	Wheel rim diameter	in.	W
14	Recommended tire pressure (sand)	psi	W
15	Area of one track shoe (tracked) or number of wheels (wheeled)	$in.^2$	B
16	Number of bogies in contact with ground (tracked) or chain indicator (wheeled) (0 = no chains, 1 = chains)	-	B
17	Vehicle ground clearance at the center of greatest wheel span	in.	W
18	Minimum vehicle ground clearance	in.	B
19	Rear-end clearance (vertical clearance of vehicle trailing edge)	in.	B
20	Vehicle departure angle	deg	B

(Continued)

* T denotes tracked vehicles only; W denotes wheeled vehicles only; and B denotes both wheeled and tracked vehicles.

Table 16 (Continued)

Item No.	Vehicle Characteristics	Dimensions	Characteristic Application*
21	Front-end clearance (vertical clearance of vehicle's leading edge)	in.	B
22	Vehicle approach angle	deg	B
23	Length of track on ground or wheel diameter	in.	B
24	Height of vehicle pushbar (leading edge when no pushbar)	in.	B
25	Distance between first-and last-wheel center lines (or bogies)	in.	B
26	Horizontal distance from the center of gravity to the front-wheel centerline	in.	T
27	Vertical distance from the center of gravity to the road-wheel center lines	in.	B
28	Maximum span between adjacent wheel center lines	in.	W
29	Horizontal distance from the center of gravity to the center of the rear sprocket or idler	in.	T
30	Vertical distance from the ground to the center of the rear idler or sprocket	in.	T
31	Track thickness plus the radius of the road wheel	in.	T
32	Rolling radius of tire or sprocket pitch radius	in.	B
33	Maximum braking coefficient the vehicle develops	-	B
34	Maximum force the leading edge can withstand	lb	B
35	Maximum axle load/gross vehicle weight	-	W
36	Vehicle rated horsepower per ton	hp/ton	B
37	Transmission type	-	B
38	Array containing vehicle velocity versus obstacle height at 2.5-g vertical acceleration	-	B

(Continued)

(Sheet 2 of 3)

Table 16 (Concluded)

Item No.	Vehicle Characteristics	Dimen-sions	Characteristic Application*
39	Array containing ride dynamics versus speed curve (cross country)	-	B
40	Array containing ride dynamics versus speed curve (trails and secondary roads)	-	B
41	Array containing tractive force-speed array	-	B

(Sheet 3 of 3)

Table 17

Tractive Force* vs Speed Relations

Speed, mph	Tractive Force, lb										
	Standard Commercial Vehicles					Military	High-Performance Commercial Vehicles				
	Ramcharger	Blazer	CJ5	Scout	Bronco	M151A2	Ramcharger	Blazer	CJ5	Scout	Bronco
0	3394	3381	3528	1531	4439	2185	5938	7046	4840	8203	5340
2	3394	3381	3528	1531	4439	2185	5264	6162	4840	7234	4686
4	3394	3381	3528	1531	4439	2185	4625	5332	4840	6360	4066
6	3394	3381	3528	1531	4439	2185	3988	4523	4840	5379	3459
8	3394	3381	3408	1531	4394	2084	3438	3832	4840	4517	2912
10	3318	3229	3185	1531	4122	1929	3040	3489	4840	3924	2600
12	3083	3042	2773	1531	2418	1694	2935	3415	4705	3792	2598
14	2751	2715	2236	1525	2410	1168	2829	3228	4305	3567	2553
16	1955	2258	1898	1503	2363	1126	2674	3965	3702	3270	2451
18	1905	1869	1800	1451	2265	1072	2456	2098	2776	2298	1542
20	1820	1812	1667	1383	2106	1003	1733	2055	2686	2251	1540
22	1735	1711	1490	1309	1915	926	1708	1992	2555	2197	1530
24	1606	1584	1389	1231	1737	848	1666	1916	2391	2093	1510
26	1476	1441	1260	792	1297	618	1611	1817	2162	1989	1476
28	1376	1357	1129	786	1284	607	1549	1709	2024	1885	1430
30	1100	1261	1062	780	1270	595	1470	1555	1861	1700	1247
32	1079	1140	1019	770	1242	582	1390	1481	1688	1628	1215
34	1052	1071	975	756	1211	566	1283	1408	1528	1464	1184
36	1024	1036	924	742	1170	548	1227	1270	1487	1414	1031
38	997	997	865	722	1107	528	1171	1231	1435	1364	1011
40	967	950	831	702	1053	507	1080	1184	1381	1315	990
42	918	901	792	682	1000	485	1042	1138	1315	1101	968
44	868	851	748	662	947	464	1004	1091	1234	1088	756
46	841	824	705	643	641	364	967	975	1191	1066	751
48	803	792	660	594	641	361	831	956	1146	1040	747
50	765	759	615	496	641	356	818	934	1086	1015	742
52	559	720	551	490	640	351	804	908	1027	990	732
54	558	678	544	484	637	347	790	881	971	964	721
56	555	566	538	478	634	341	774	854	921	939	710
58	551	558	532	470	631	335	754	827	785	768	699
60	548	551	526	461	627	328	734	677	782	762	521
62	544	547	517	453	623	321	715	671	767	756	520
64	538	542	507	445	616	314	695	664	757	750	518
66	531	537	496	436	608	306	582	657	748	739	516
68	524	532	486	428	600	299	577	649	739	727	514
70	518	524	475	420	593	291	572	641	727	715	511

* Values computed by power-train submodel and not adjusted for surface traction or slip

Table 18

Comparison of Predicted and Measured Traverse Speeds

	Vehicle	Measured Speed* mph	Predicted Speed mph	Algebraic Deviation** mph	Percent Error†
		6-watt Ride Criterion			
Standard Commercial Vehicle	Ramcharger	28.2	19.4	- 8.8	31.2
	Blazer	29.4	20.6	- 8.8	29.9
	CJ5	25.2	25.8	+ 0.6	2.4
	Scout	30.6	26.7	- 3.9	12.8
	Bronco	29.2	22.3	- 6.9	23.6
High-Performance Commercial Vehicle	Ramcharger	30.6	18.2	-12.4	40.5
	Blazer	30.4	19.3	-11.1	36.5
	CJ5	28.5	25.8	- 2.7	8.8
	Scout	30.6	24.1	- 6.5	21.2
	Bronco	30.4	24.2	- 6.2	20.4
Military Vehicle	M151A2	29.1	22.2	- 6.9	23.7
		Maximum Control Speed Ride Criterion			
Standard Commercial Vehicle	Ramcharger	28.2	26.6	- 1.4	5.0
	Blazer	29.4	27.9	- 1.5	5.1
	CJ5	25.2	26.5	+ 1.3	5.2
	Scout	30.6	26.7	- 3.9	12.8
	Bronco	29.2	25.3	- 3.9	13.4
High-Performance Commercial Vehicle	Ramcharger	30.6	25.2	- 5.4	17.6
	Blazer	30.4	28.2	- 2.2	7.2
	CJ5	28.5	27.4	- 1.1	3.9
	Scout	30.6	27.6	- 3.0	9.8
	Bronco	30.4	26.3	- 4.1	13.5
Military Vehicle	M151A2	29.1	27.7	- 1.2	4.1

* Measured speed with WES driver.

** Algebraic deviation = predicted speed - measured speed.

† Percent error = $\frac{\text{predicted speed - measured speed}}{\text{measured speed}}$.

Table 19

VCI_1 Values for Test Vehicles

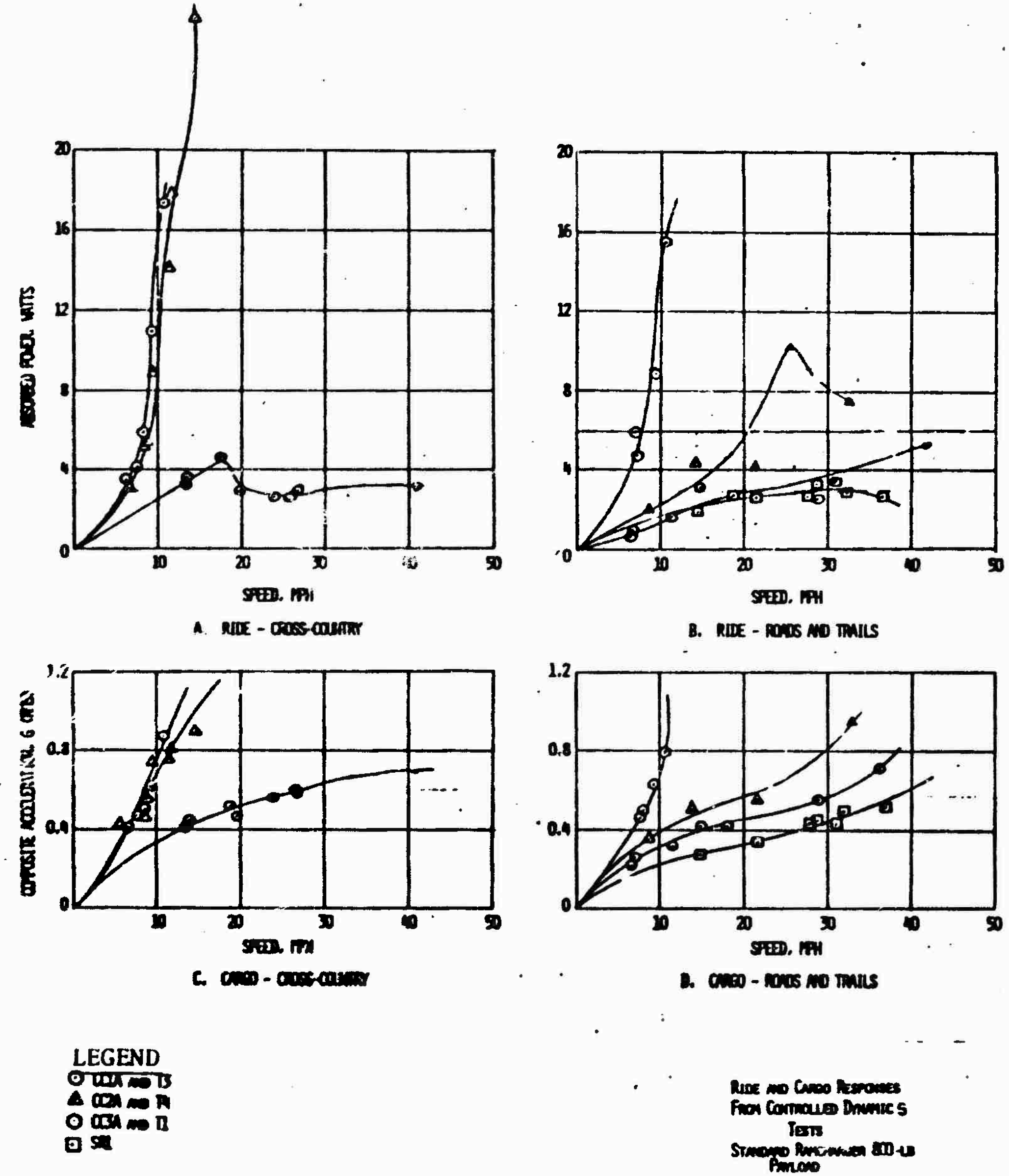
Vehicle	Payload, lb	VCI_1 (Fine-Grained Soils)
Standard Commercial		
Ramcharger	800	28
	1885	31
Blazer	800	30
	1660	34
CJ5	800	26
	1300	29
Scout	800	27
	1919	32
Bronco	800	27
High-Performance Commercial		
Ramcharger	800	22
	1885	25
Blazer	800	20
	1660	22
CJ5	800	24
	1300	26
Scout	800	28
	1919	32
Bronco	800	26
	1340	28
Military		
M151A2	800	19

Table 20

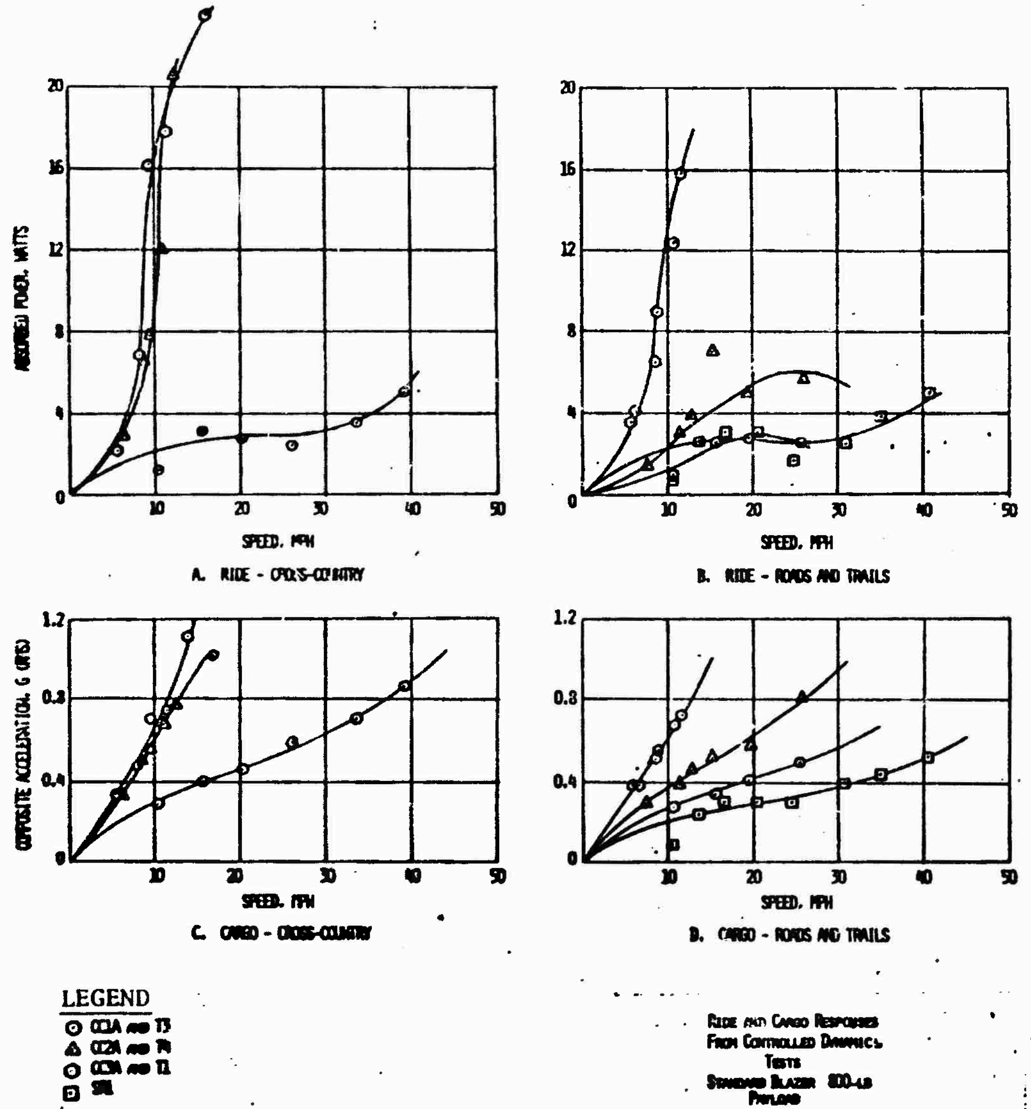
Summary Evaluation of Vehicle Performance

Rank	Ride Test Courses: Ride Quality: Cross-Country	Ride Test Courses: Ride Quality: Roads & Trails	Ride Test Courses: Cargo Response: Cross-Country	Ride Test Courses: Cargo Response: Roads & Trails	Obstacle Shock	Traverse Test Course: Traverse Speed	Traverse Test Course: Absorbed Energy
1	S. Scout 1919*	S. Scout 800	S. Scout 800	M151A2 800	H. P. Ramcharger 1885	H. P. Bronco 800	S. Scout 1919
2	S. Scout 800	H. P. Scout 1919	H. P. Ramcharger 1885	S. Scout 800	H. P. Blazer 800	H. P. Blazer 1660	S. Scout 800
3	S. Ramcharger 800	S. Scout 1919	M151A2 800	H. P. Scout 1919	H. P. Ramcharger 800	H. P. Scout 800	H. P. CJ5 1300
4	H. P. Blazer 800	H. P. Scout 800	S. Scout 1919	S. Scout 1919	S. Blazer 1660	S. Scout 800	H. P. Scout 800
5	H. P. Scout 1919	H. P. Bronco 1340	H. P. Scout 800	H. P. Ramcharger 1885	S. Ramcharger 800	H. P. Ramcharger 1885	S. CJ5 800
6	S. Ramcharger 1885	S. CJ5 800	S. Ramcharger 1885	H. P. Blazer 1660	S. Ramcharger 1885	H. P. Ramcharger 800	H. P. CJ5 800
7	H. P. Blazer 1660	H. P. CJ5 800	H. P. Blazer 800	S. Blazer 1660	H. P. Blazer 1660	H. P. Scout 1919	S. Blazer 1660
8	H. P. Ramcharger 800	H. P. Bronco 800	S. Blazer 1660	H. P. Bronco 1340	M151A2 800	H. P. Bronco 1300	S. CJ5 1300
9	H. P. Ramcharger 1885	S. CJ5 1300	H. P. CJ5 1300	H. P. CJ5 1300	S. Blazer 800	H. P. Blazer 800	S. Blazer 800
10	H. P. CJ5 800	H. P. CJ5 1300	H. P. CJ5 800	H. P. Ramcharger 800	H. P. Bronco 1340	H. P. CJ5 1300	H. P. Ramcharger 1885
11	S. Blazer 800	S. Blazer 1660	S. Bronco 800	H. P. Scout 800	S. Scout 800	S. Blazer 800	S. Ramcharger 800
12	S. CJ5 1300	S. Ramcharger 1885	H. P. Bronco 1340	S. Blazer 800	H. P. CJ5 800	M151A2 800	S. Ramcharger 1885
13	S. Bronco 800	S. Blazer 800	H. P. Ramcharger 800	S. Ramcharger 1885	S. Scout 1919	S. Bronco 800	H. P. Scout 1919
14	H. P. Scout 800	H. P. Blazer 800	S. Blazer 800	H. P. CJ5 800	S. Bronco 800	S. Blazer 1660	H. P. Bronco 800
15	H. P. Bronco 1340	S. Ramcharger 800	S. CJ5 800	H. P. Blazer 800	H. P. Scout 800	H. P. CJ5 800	H. P. Blazer 1660
16	M151A2 800	S. Bronco 800	S. CJ5 1300	S. Bronco 800	H. P. Scout 1919	S. Ramcharger 800	M151A2 800
17	H. P. Bronco 800	H. P. Ramcharger 1885	H. P. Scout 1919	S. CJ5 800	H. P. Bronco 800	S. Ramcharger 1885	H. P. Blazer 800
18	S. CJ5 800	H. P. Blazer 1660	H. P. Blazer 1660	S. CJ5 1300	S. CJ5 800	S. Scout 1919	H. P. Bronco 1340
19	H. P. CJ 5 1300	H. P. Ramcharger 800	S. Ramcharger 800	S. Ramcharger 800	S. CJ5 1300	S. CJ5 1300	S. Bronco 800
20	S. Blazer 1660	M151A2 800	H. P. Bronco 800	H. P. Bronco 800	H. P. CJ5 1300	S. CJ5 800	H. P. Ramcharger 800

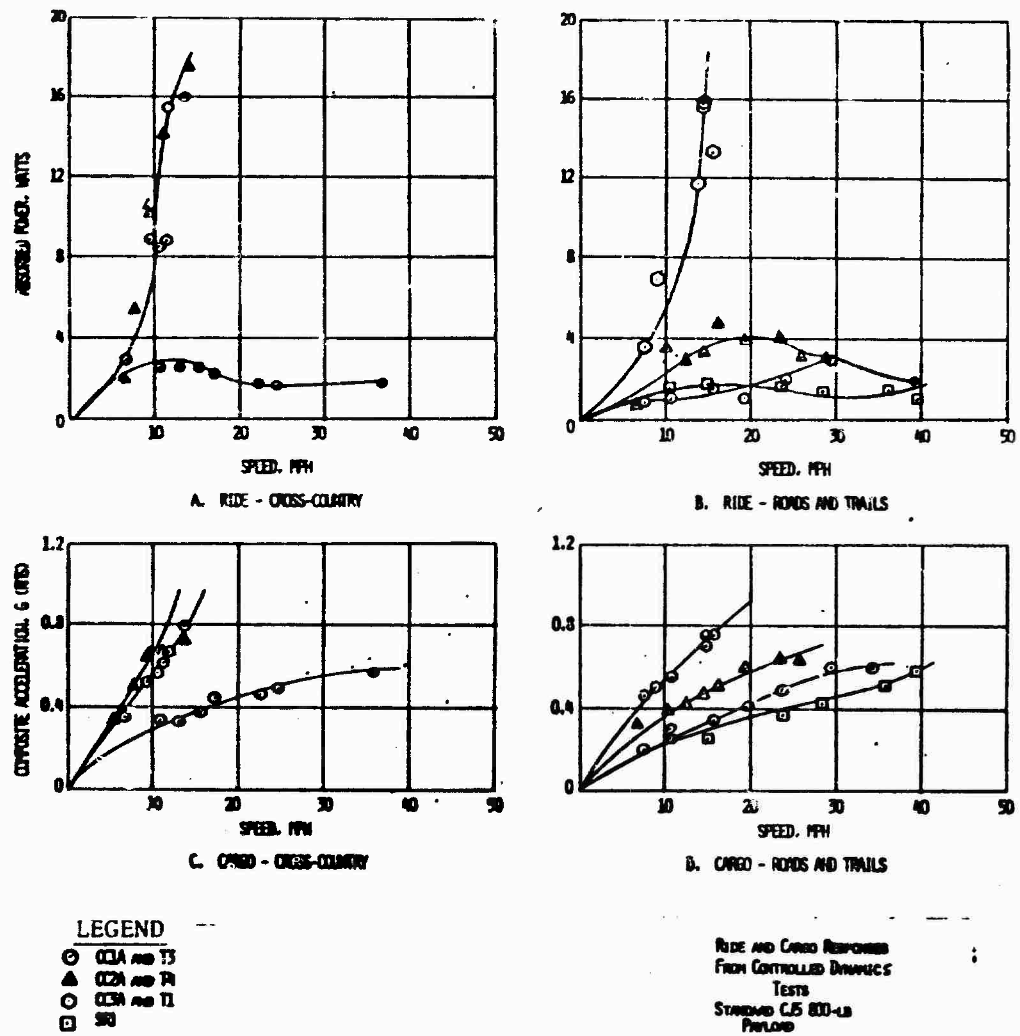
NOTE: H. P. denotes high-performance; S denotes standard performance; and brackets indicate performance rated equal.
* Number indicates payload, lb.



Ride and Cargo Responses
From Controlled Dynamics
Tests
Standard [illegible] 800-lb
Payload



RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
STANDARD BLAZER 800-LB
PAYLOAD



Ride and Cargo Responses
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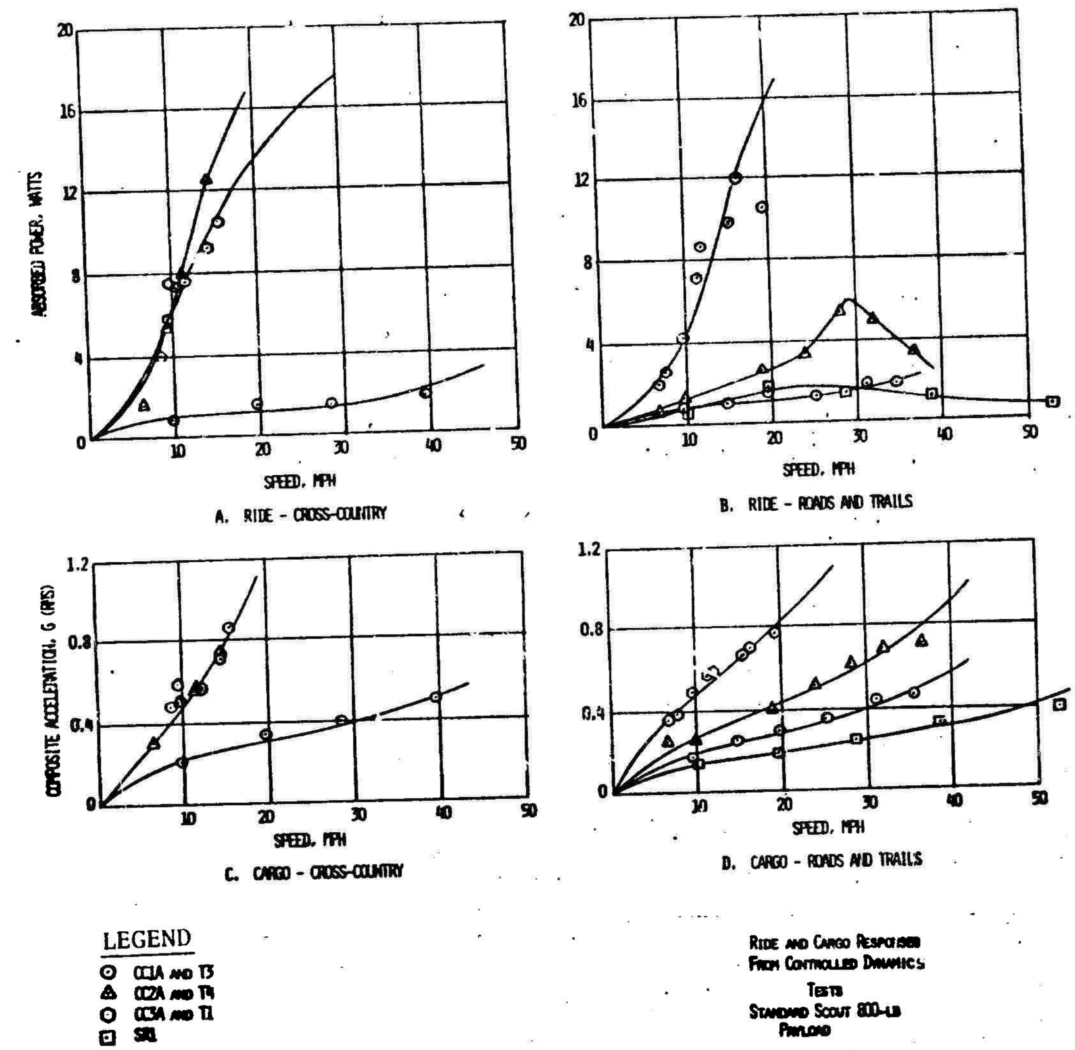
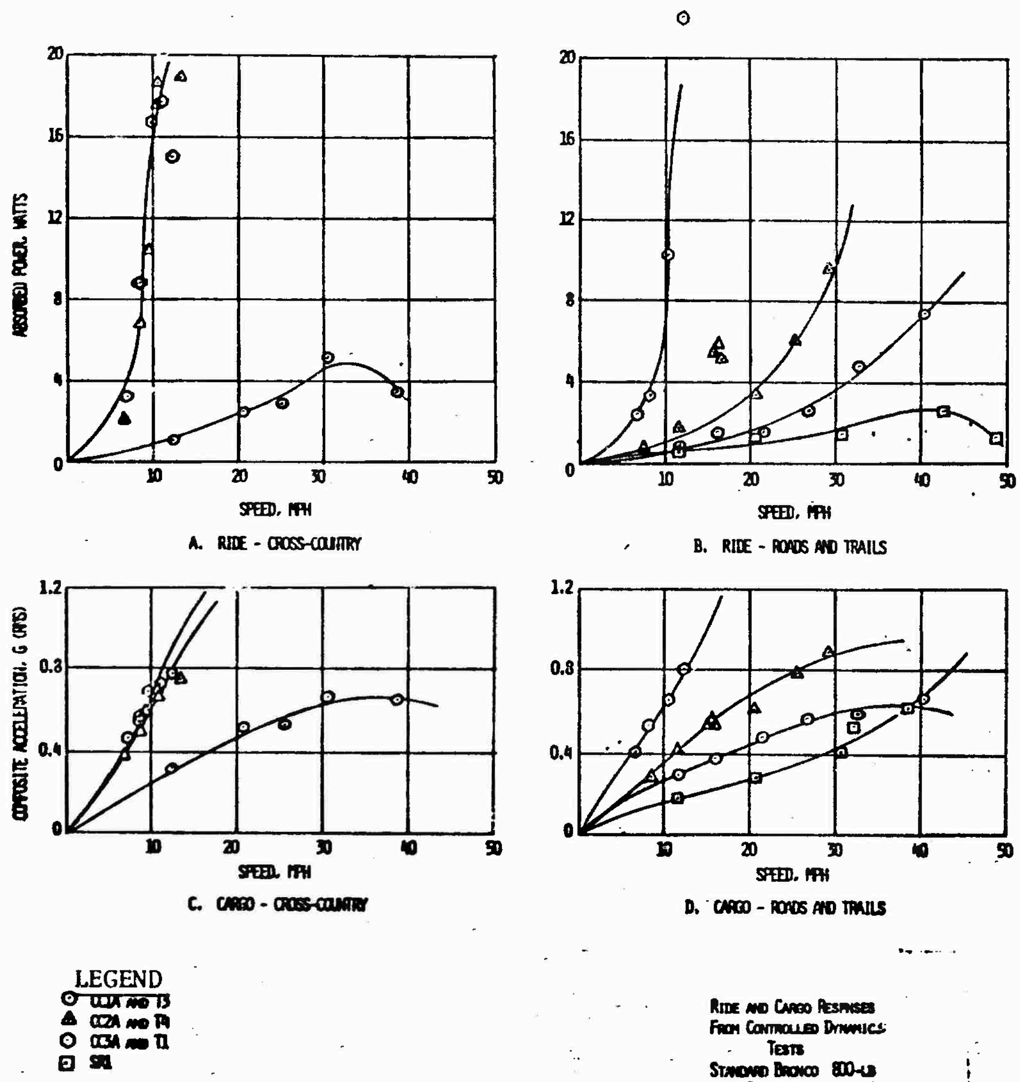
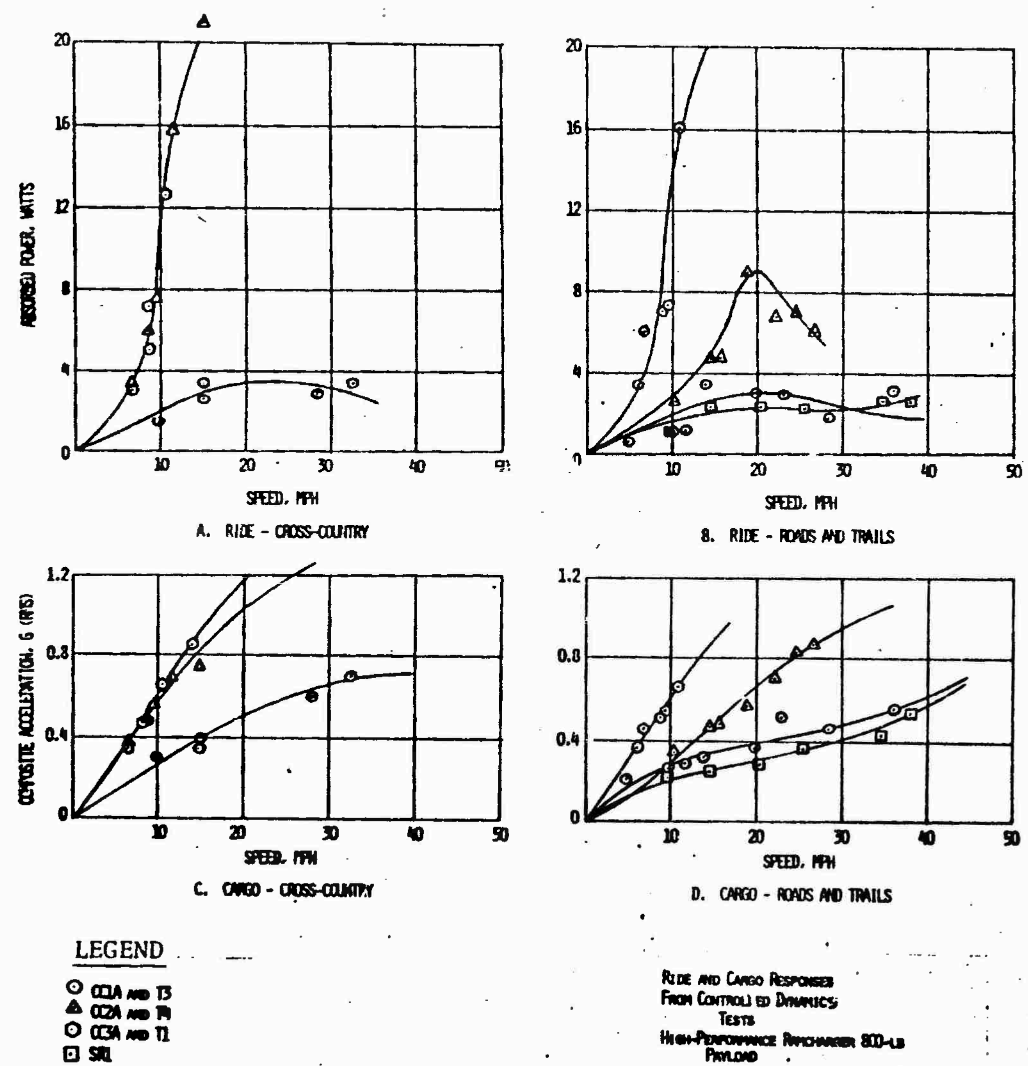
Tests
Standard CJ5 800-lb
Payload



RIDE AND CARGO RESPONSES FROM CONTROLLED DYNAMICS TESTS
STANDARD SCOUT 800-LB PAYLOAD

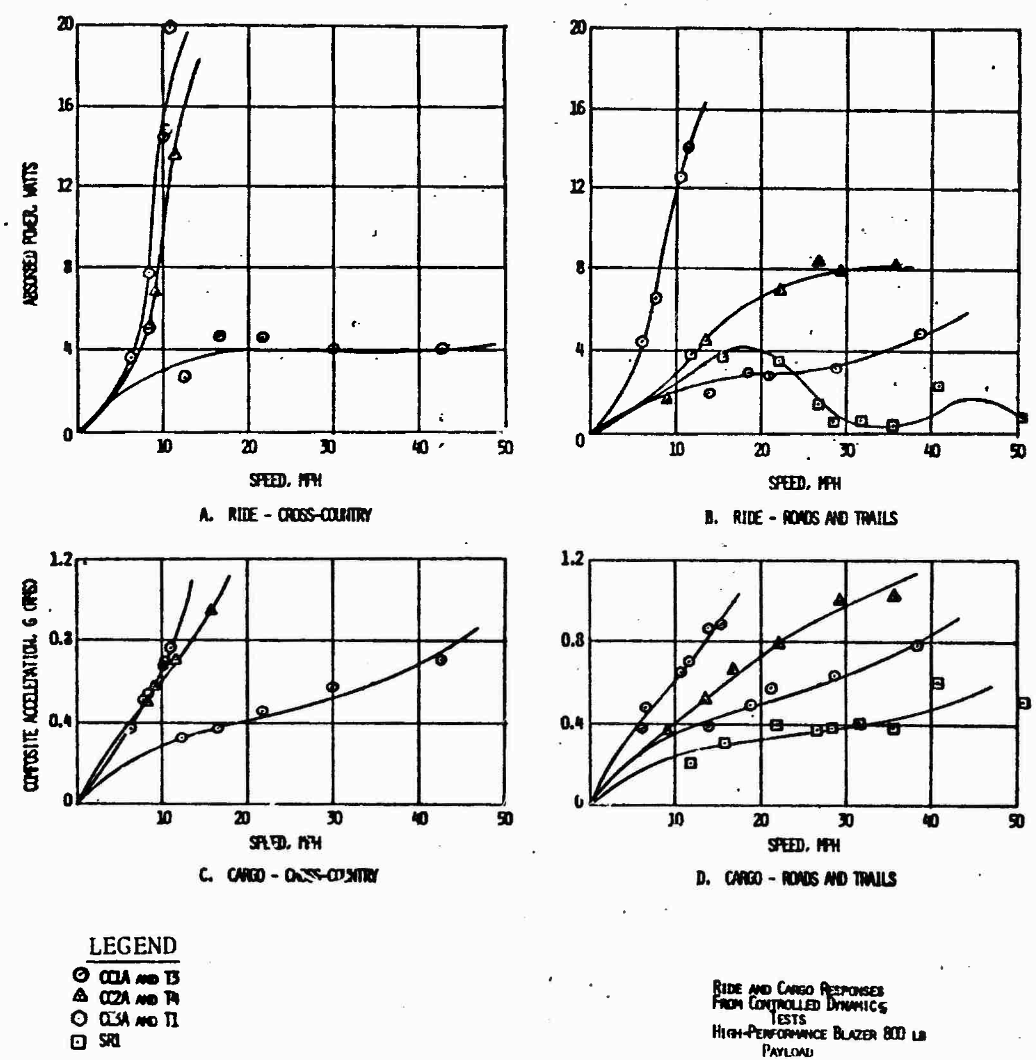


RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS TESTS
STANDARD BRONCO 800-LB PAYLOAD

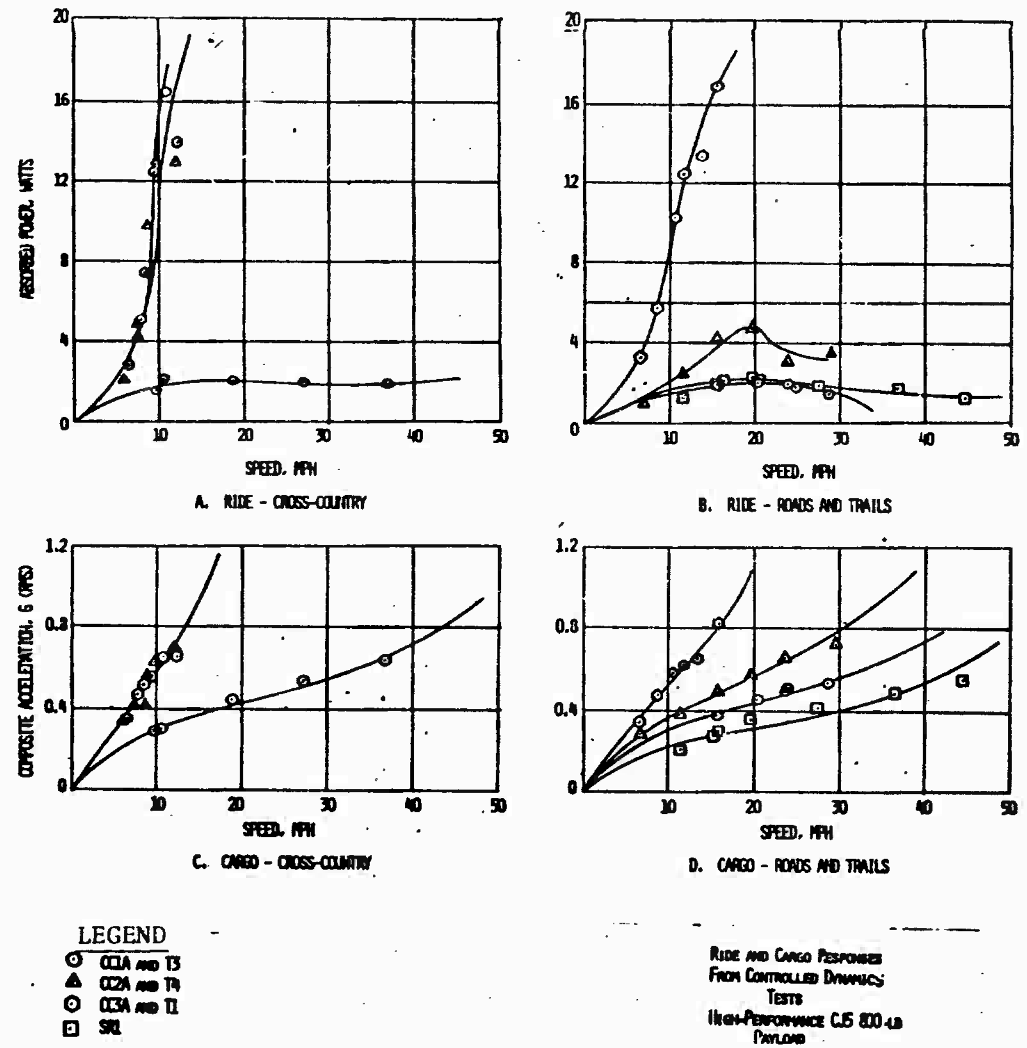


RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
HIGH-PERFORMANCE RAMCHARGER 800-LB
PAYLOAD

Plate 6

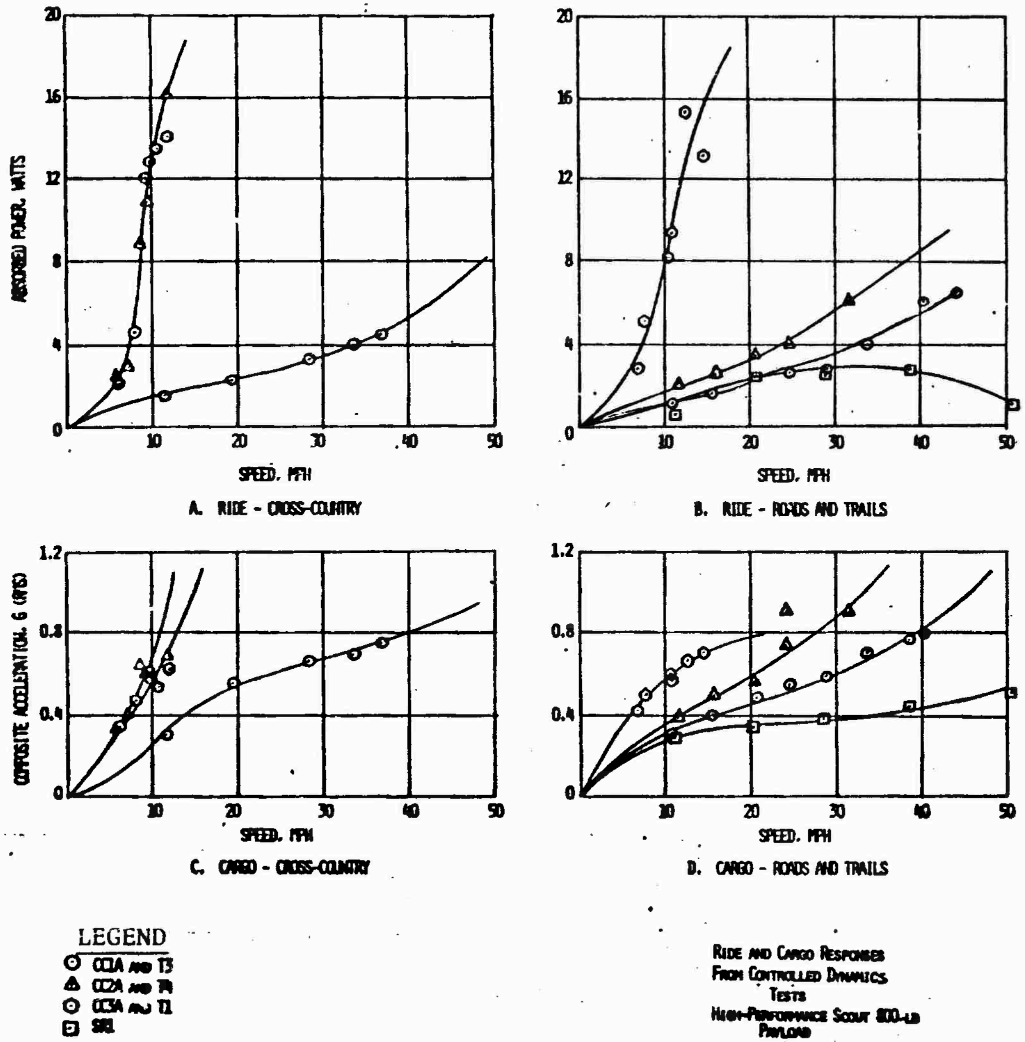


RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
HIGH-PERFORMANCE BLAZER 800 LB
PAYLOAD

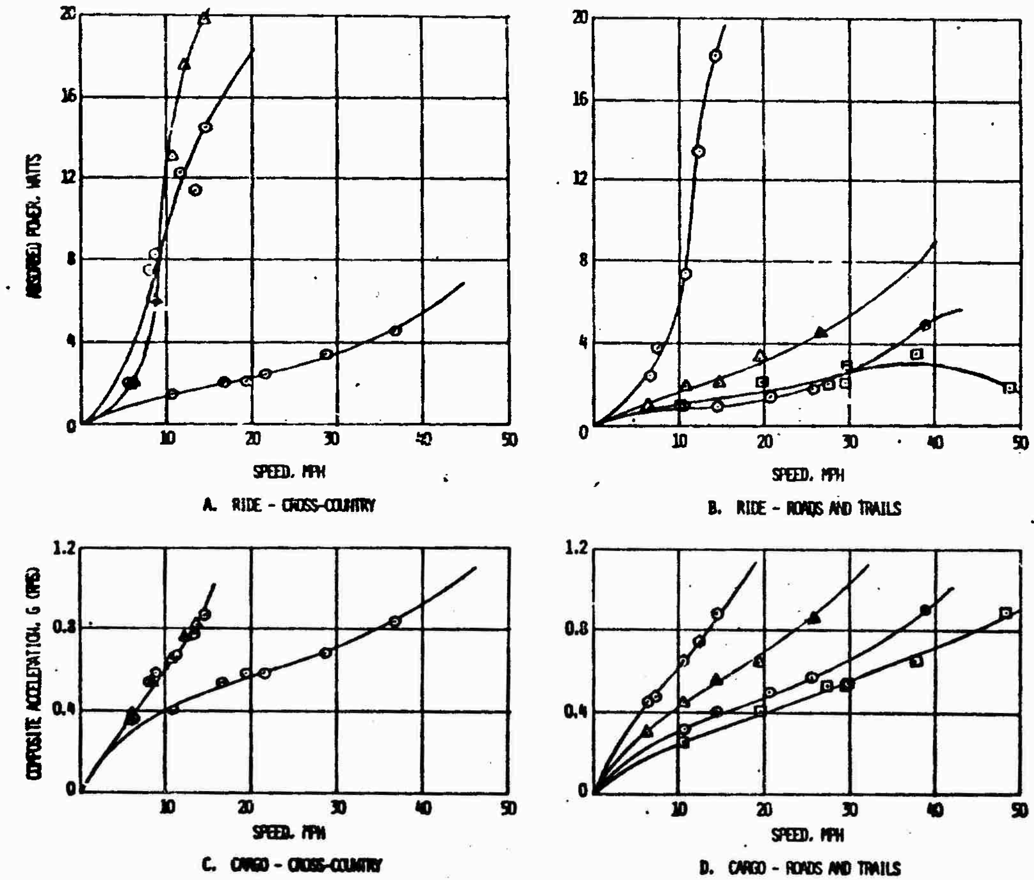


RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
HIGH-PERFORMANCE CJ5 800-LB
PAYLOAD

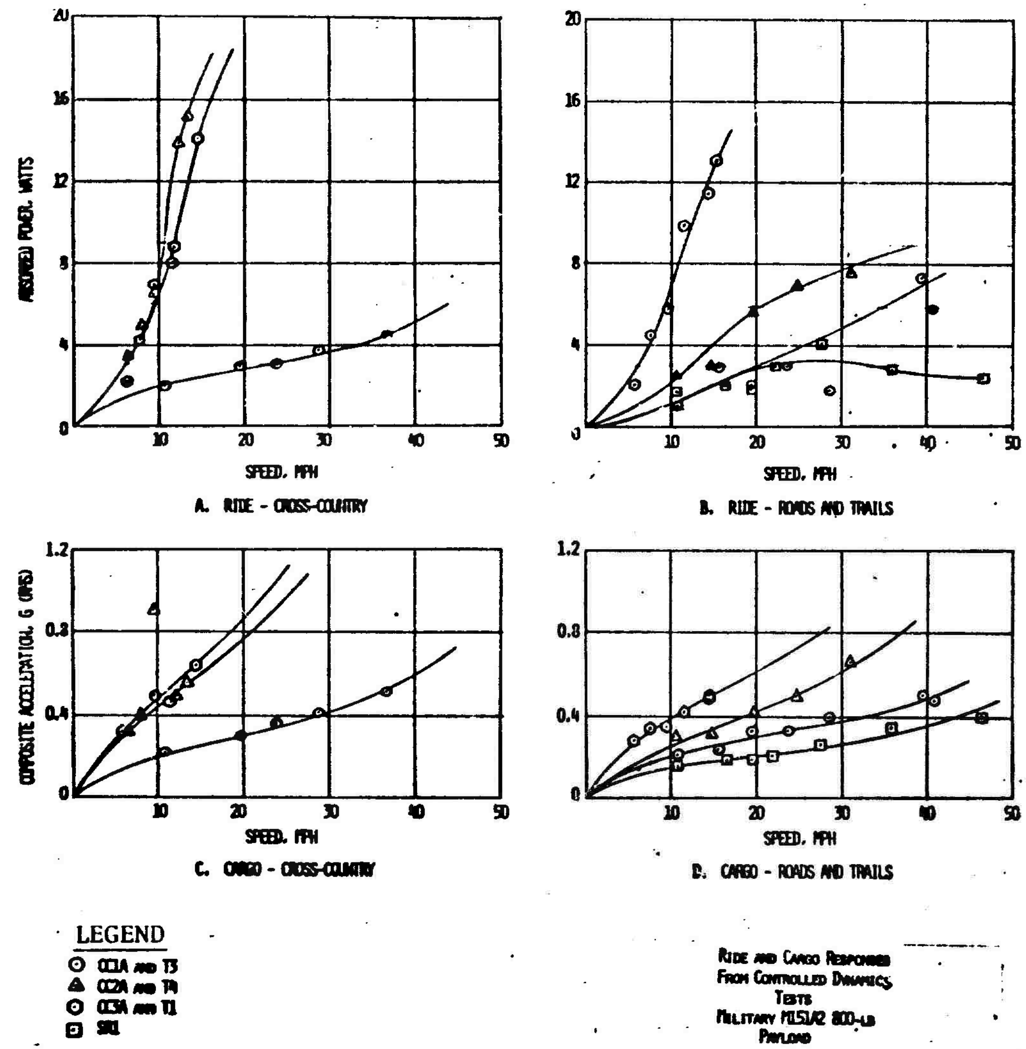
Plate 8



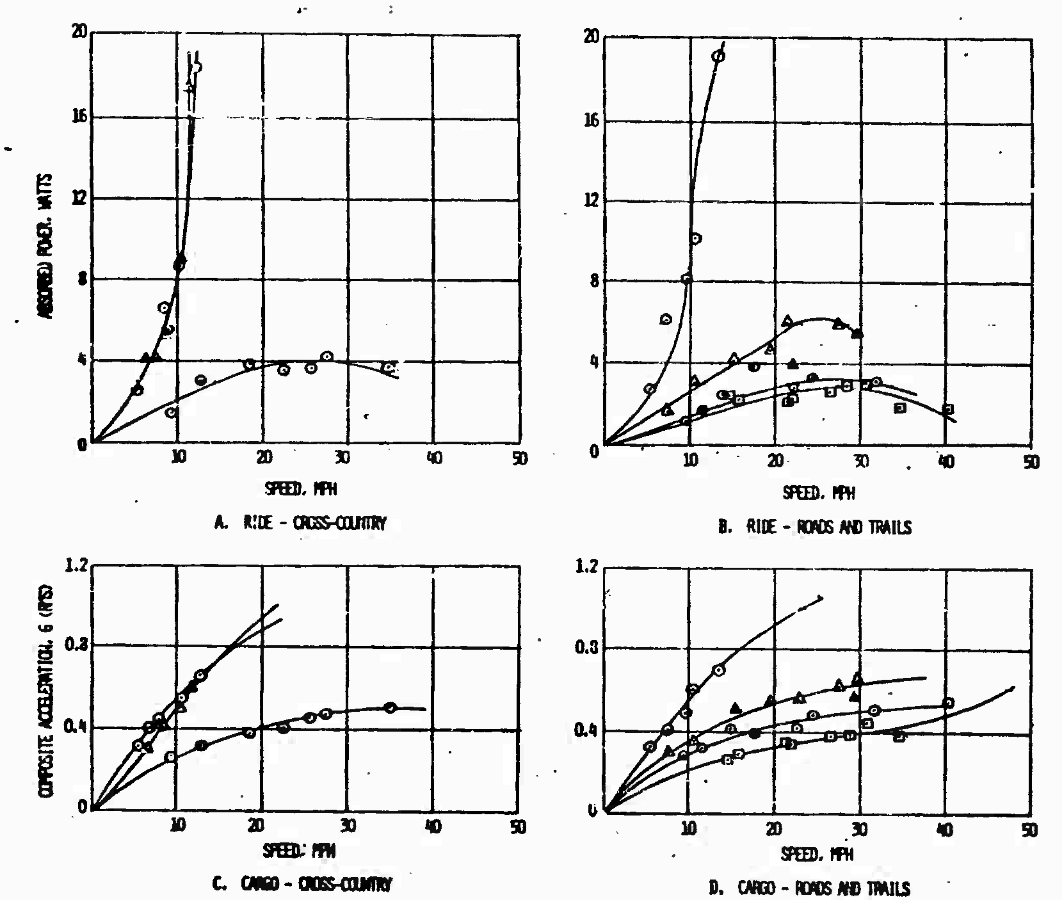
RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
HIGH-PERFORMANCE SCOUT 800-LB
PAYLOAD



Ride and Cargo Responses
From Controlled Dynamics
Tests
High-Performance Bronco 800-LB
Payload

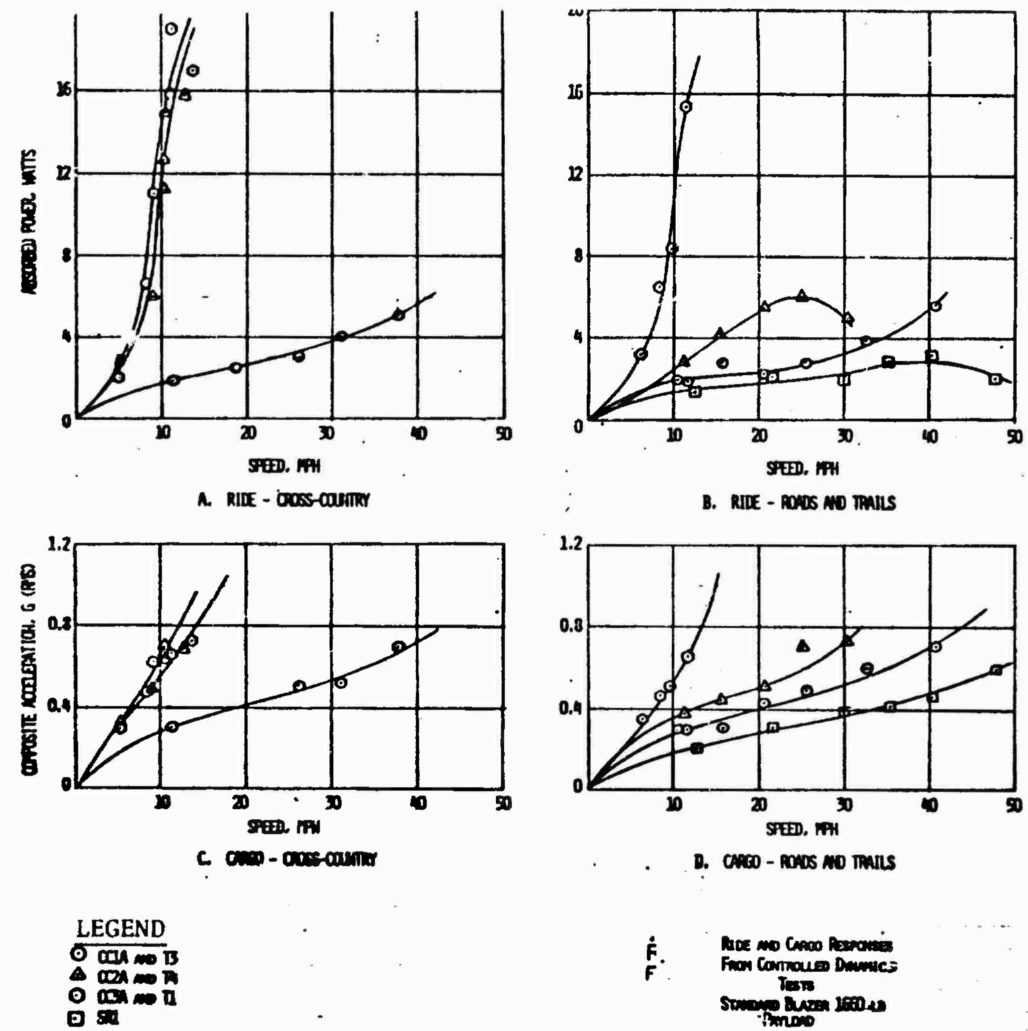


RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
MILITARY M151A2 800-LB
PAYLOAD

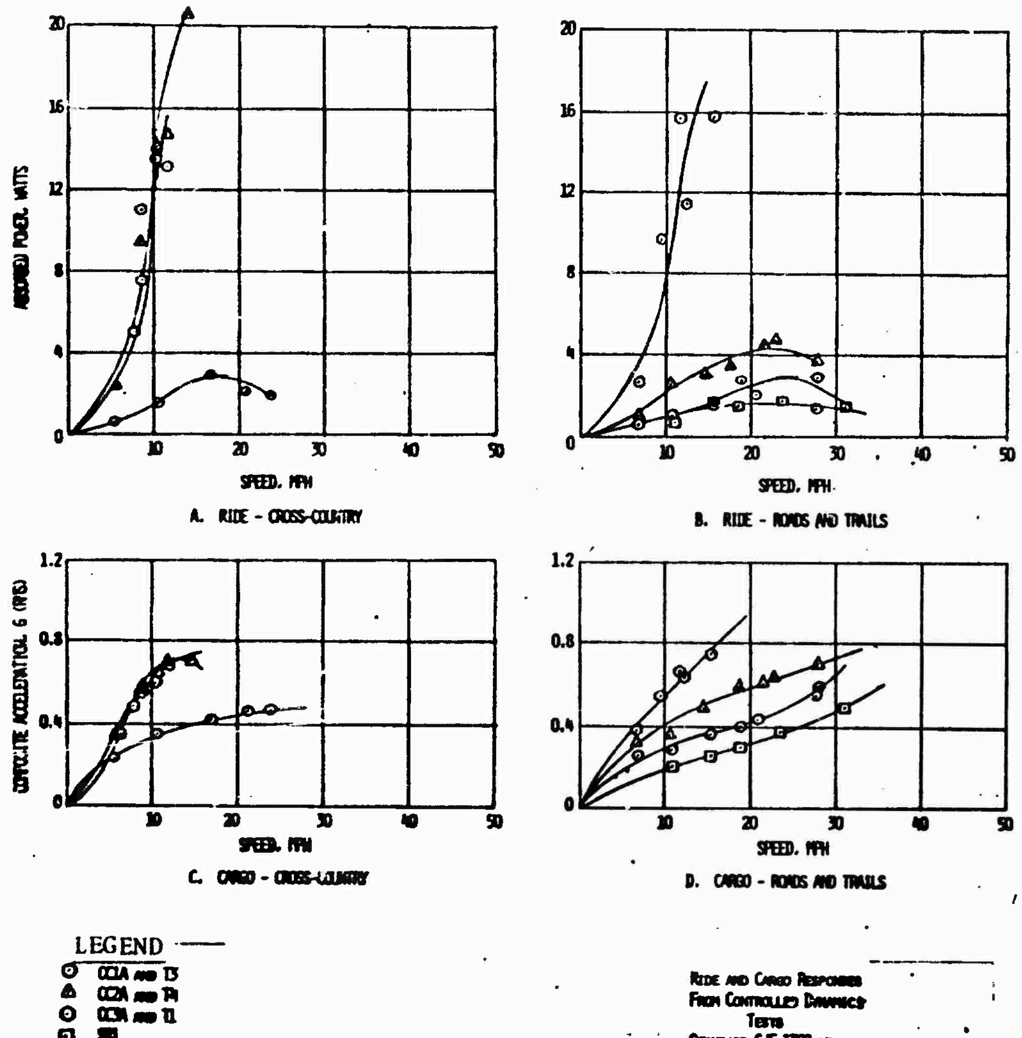


LEGEND
- ⊙ CC1A AND T3
- △ CC2A AND T4
- ○ CC3A AND T1
- ⊡ SRL

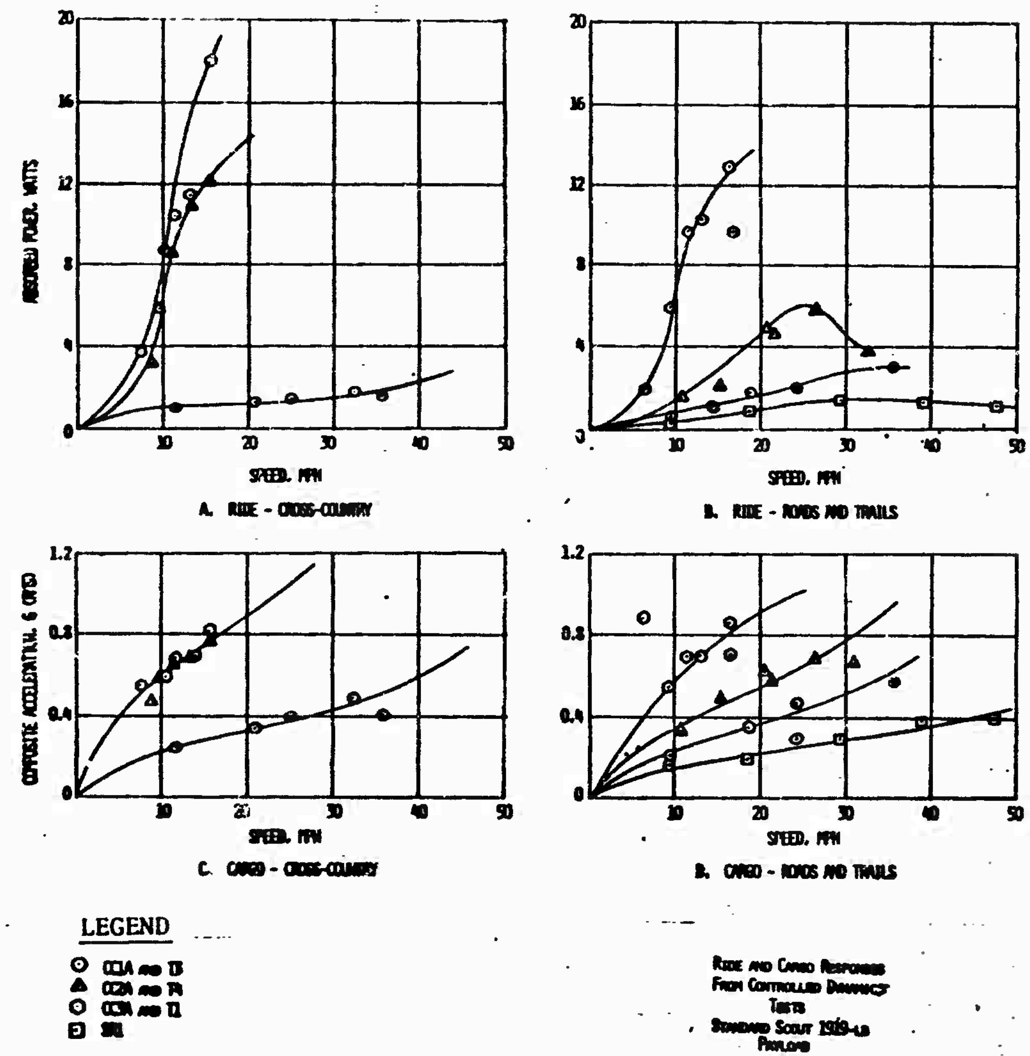
RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
STANDARD RANCHWAGEN 1885-LB
PAYLOAD



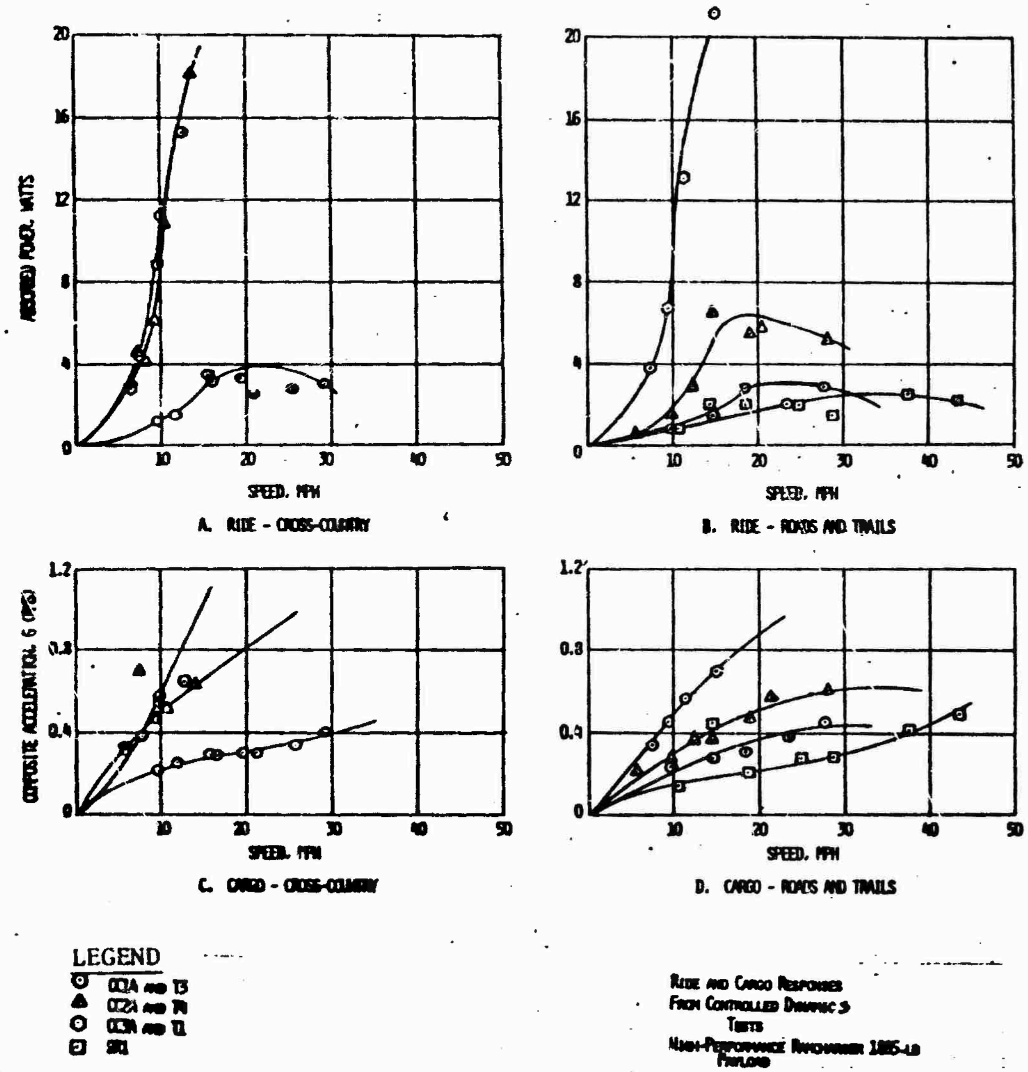
RIDE AND CARGO RESPONSES FROM CONTROLLED DYNAMICS TESTS
STANDARD BLAZER 1660-LB PAYLOAD



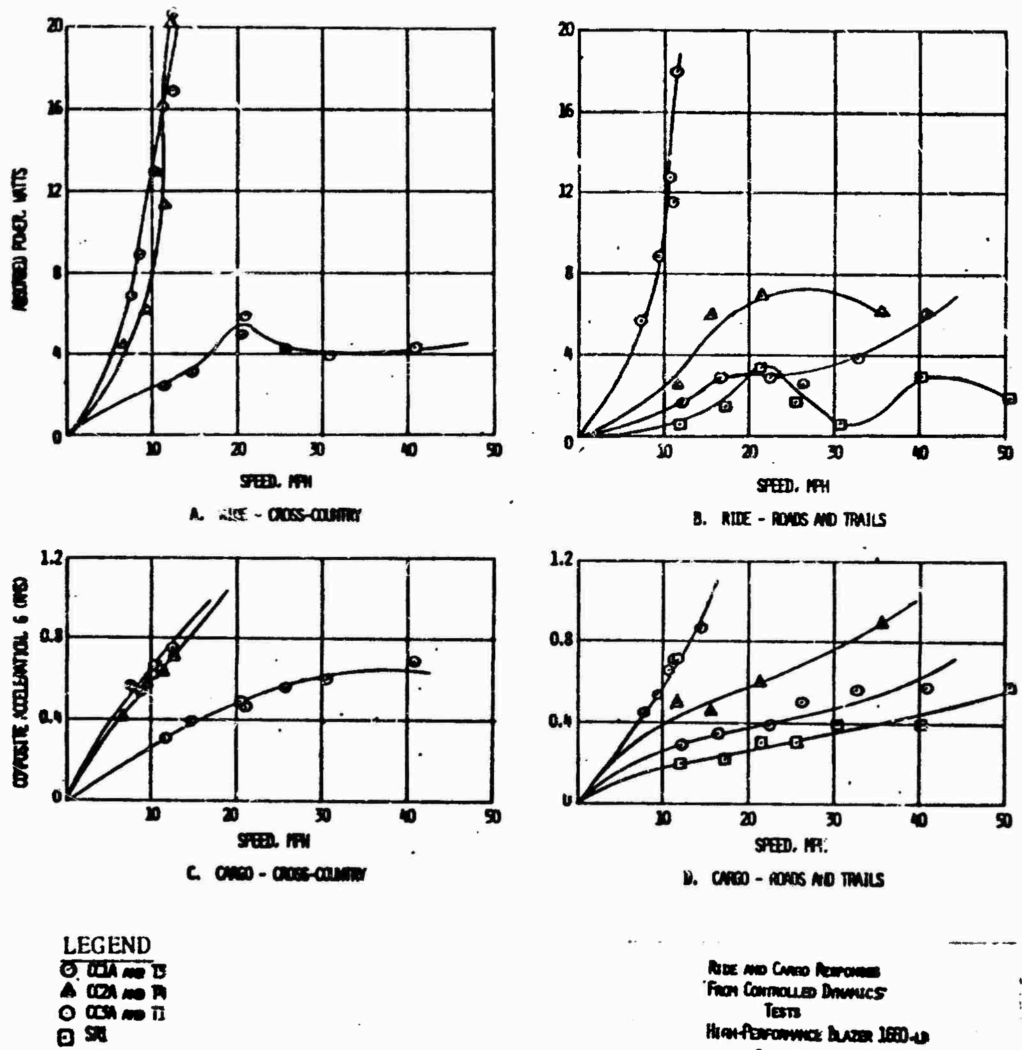
RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
STANDARD CJ5 1300-LB
PAYLOAD



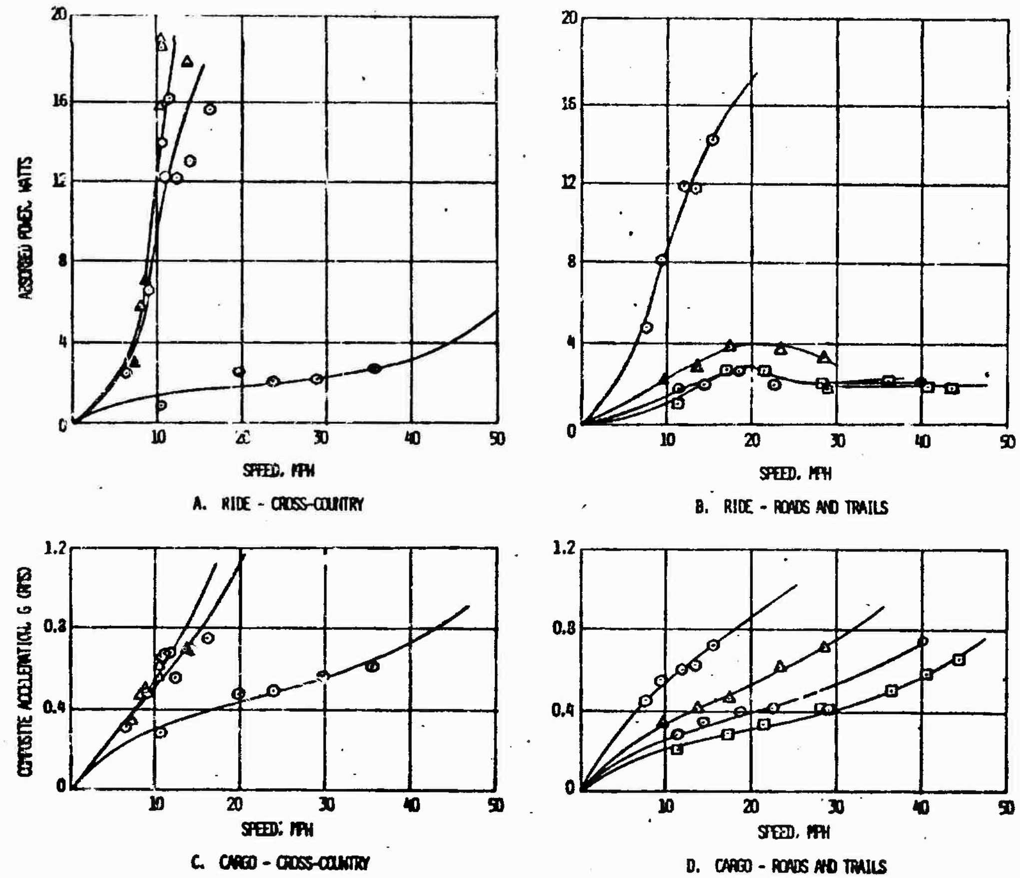
Ride and Cargo Responses From Controlled Dynamics Tests Standard Scout 1919-lb Payload



Ride and Cargo Responses
From Controlled Dynamics
Tests
High-Performance Ranchwagon 1885-lb
Payload



RIDE AND CARGO RESPONSES FROM CONTROLLED DYNAMICS TESTS
HIGH-PERFORMANCE BLAZER 1660-LB PAYLOAD

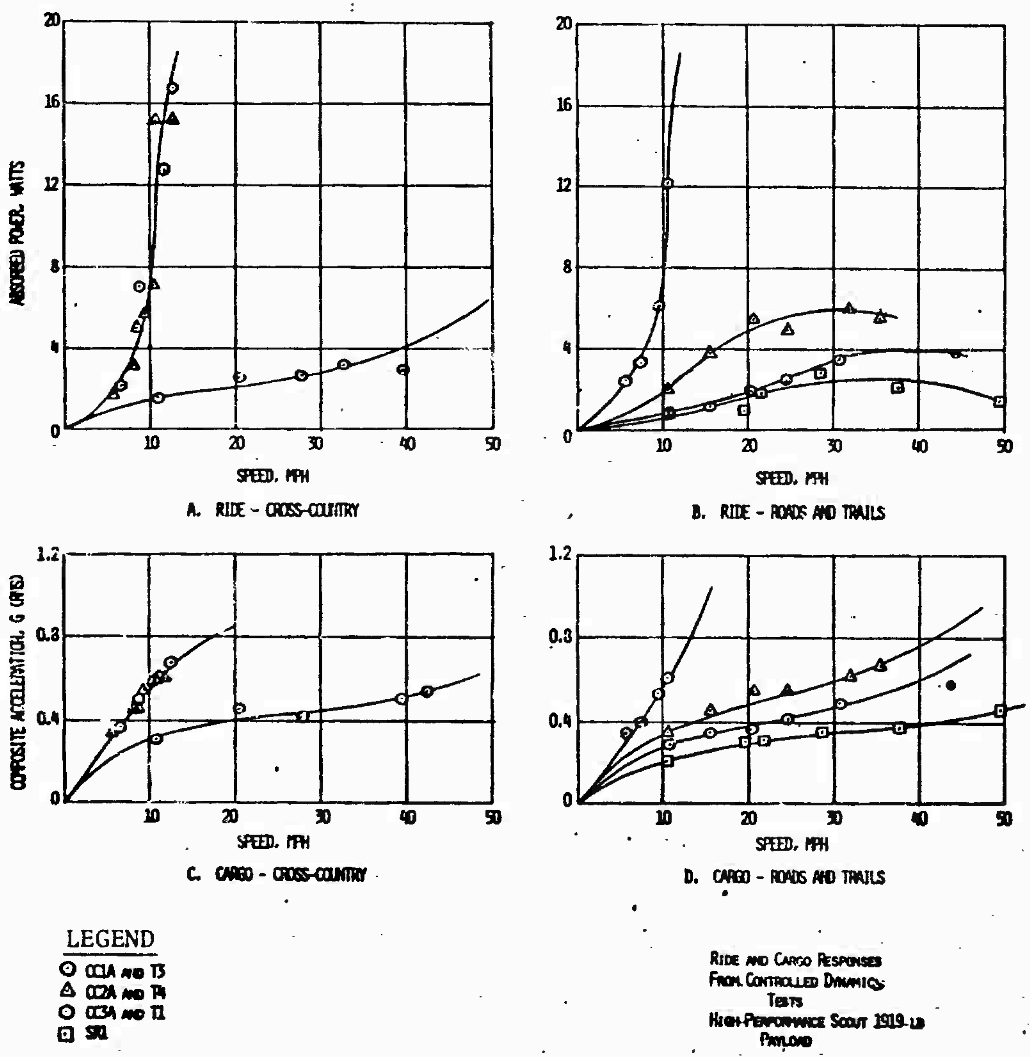


LEGEND

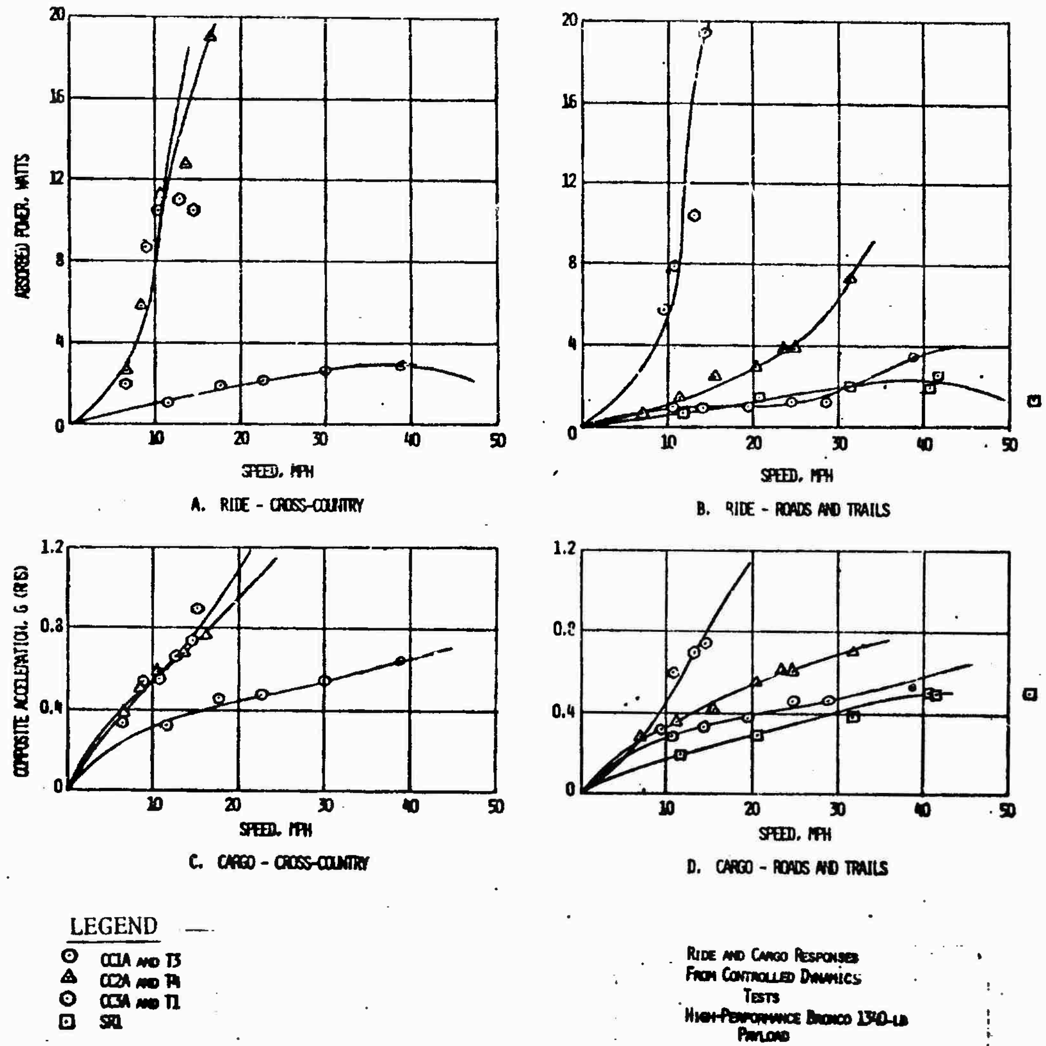
- ⊙ CC1A AND T3
- △ CC2A AND T4
- O CC3A AND T1
- ⊡ SR1

RIDE AND CARGO RESPONSES FROM CONTROLLED DYNAMICS TESTS
HIGH-PERFORMANCE CJ5 1300-LB PAYLOAD

Plate 18



RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
HIGH-PERFORMANCE SCOUT 1919-LB
PAYLOAD



RIDE AND CARGO RESPONSES
FROM CONTROLLED DYNAMICS
TESTS
HIGH-PERFORMANCE BRONCO 1340-LB
PAYLOAD

APPENDIX A: DETAILED DYNAMICS DATA FOR RIDE AND SHOCK TESTS

1. The detailed dynamics data for the ride tests are given in Table A1, and the detailed data for the shock tests are presented in Table A2.

Table A1

Data from Controlled Ride Dynamics Tests

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
					Standard Ramcharger with 800 lb Payload						
2138	T1	2.0	7.4	4.8	0.45	64	2	1	0	0	0
2139			10.6	15.6	0.79	76	61	20	3	1	4
2140			9.3	8.8	0.62	84	20	5	2	2	0
2141			7.1	6.0	0.48	76	8	0	0	0	0
2118	T3	0.6	6.3	0.7	0.23	1	1	0	0	0	0
2119			6.8	0.9	0.25	0	1	0	0	0	0
2120			11.2	1.6	0.31	4	0	0	0	0	0
2121			14.9	3.0	0.42	27	4	0	0	0	0
2122			18.3	2.4	0.42	25	1	0	0	0	0
2124			28.4	2.3	0.54	34	7	0	0	0	0
2125			42.5**	4.7	0.71	30	7	2	1	0	0
2126	T4	1.2	8.5	2.0	0.35	16	2	0	0	0	0
2127			14.0	4.2	0.50	34	5	2	1	1	0
2128			25.3	9.4	1.14	36	15	8	5	1	3
2129			21.1	4.1	0.56	25	9	1	1	0	0
2130			32.5**	7.4	0.94	86	78	47	3	3	0
2131	SR1	0.4	14.4	2.0	0.28	3	1	0	0	0	0
2132			21.5	2.5	0.33	7	0	0	0	0	0
2133			27.6	2.4	0.43	15	6	0	0	0	0
2134			30.7	3.4	0.43	18	3	0	0	0	0
2135			36.9	2.6	0.53	20	8	0	0	0	0
2136			28.4	3.4	0.44	17	4	1	1	0	0
2137			31.7	2.9	0.52	34	6	0	0	1	0

(Continued)

* All test were conducted at test tire inflation pressure (Table 2 in main text) except as indicated for the M151A2.

** Maximum control speed due to steering.

Table A1 (Continued)

	Test Course			Driver	Cargo Responses						
				Absorbed	Composite rms	No. of Occurrences Peak Composite of Acceleration Level, g					
Test No.*	Identi-fication	Rough-ness, rms	Speed mph	Power watts	Acceleration g	>1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2147	CC1A	0.5	26.2	2.6	0.59	49	7	3	1	0	0
2148			18.4	4.6	0.52	55	3	0	0	0	0
2149			41.4**	3.3	0.65	73	9	0	0	0	0
2150			13.6	3.7	0.43	21	1	0	0	0	0
2151			26.5	2.9	0.58	51	5	0	0	0	0
2152			13.2	3.3	0.40	62	1	0	0	0	0
2153			23.7	2.7	0.56	60	6	0	0	0	0
2154			19.9	2.9	0.46	23	0	0	0	0	0
2155	CC2A	1.4	14.1**	26.4	0.91	126	49	19	3	3	2
2156			8.2	5.2	0.49	54	9	2	0	0	0
2157			11.8	17.9	0.80	146	59	10	4	0	1
2158			8.7	6.2	0.56	89	14	3	0	0	1
2159			11.3	14.1	0.75	88	32	8	3	1	0
2160			9.5	9.2	0.73	122	47	10	3	0	0
2161			6.1	3.3	0.42	38	8	0	0	0	0
2142	CC3A	1.8	6.2	3.5	0.41	18	0	1	0	0	0
2143			7.6	4.2	0.47	38	8	4	0	0	0
2144			10.9	17.4	0.87	58	21	11	1	4	2
2145			8.2	5.8	0.50	46	4	0	1	0	0
2146			9.2	11.0	0.62	51	12	2	1	1	0
					Standard Blazer with 800-lb Payload						
2356	T1	2.0	8.6	6.4	0.52	88	6	3	2	0	0
2357			11.8**	15.8	0.74	161	47	18	3	0	2
2358			10.9	12.3	0.68	116	22	9	8	1	1
2359			8.8	8.8	0.53	96	9	6	1	0	0
2360			6.7	3.6	0.38	11	0	0	0	0	0
2361			6.0	4.0	0.39	19	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2343	T3	0.6	10.5	1.1	0.27	0	0	0	0	0	0
2344			15.3	2.6	0.33	5	0	0	0	0	0
2345			19.4	2.7	0.42	21	1	0	0	0	0
2346			25.5	2.6	0.51	31	7	0	0	0	0
2348	T4	1.2	7.3	1.3	0.27	0	0	0	0	0	0
2349			15.0	7.1	0.53	20	2	3	2	1	0
2350			11.2	2.8	0.39	8	0	0	0	0	0
2351			19.9	5.1	0.54	25	6	1	0	0	0
2352			12.9	3.6	0.45	22	2	0	0	0	0
2353			25.9	5.6	0.80	30	20	5	2	2	0
2335	SR1	0.4	16.6	3.1	0.29	6	1	0	0	0	0
2336			20.2	2.7	0.30	4	0	0	0	0	0
2337			24.8	1.6	0.30	1	0	0	0	0	0
2338			30.6	2.5	0.40	7	1	0	1	0	0
2339			35.0	3.9	0.43	14	0	0	0	0	0
2340			10.5	0.9	0.09	1	0	0	0	0	0
2341			40.7	4.9	0.56	29	3	1	0	0	0
2342			13.4	2.7	0.25	5	0	0	0	0	0
2354			51.5	1.9	0.66	31	3	3	1	1	0
2355			45.5	2.7	0.50	10	4	3	0	0	0
2368	CC1A	0.5	20.2	2.8	0.46	32	2	0	0	0	0
2369			10.3	1.5	0.29	0	0	0	0	0	0
2370			26.0	2.6	0.59	57	14	0	0	0	0
2371			15.5	3.1	0.40	11	0	0	0	0	0
2372			33.7	3.5	0.69	51	5	0	0	1	0
2373			39.0**	5.1	0.84	54	23	10	2	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2374	CC2A	1.4	12.3	20.6	0.77	59	18	12	5	1	1
2375			6.3	2.9	0.37	1	0	0	0	0	0
2376			9.3	7.8	0.55	48	3	5	2	0	0
2377			8.9	6.6	0.51	21	2	2	0	0	0
2378			11.0	12.0	0.67	50	16	10	1	3	0
2362	CC3A	1.8	5.7	2.2	0.33	1	0	0	0	0	0
2363			11.5	17.7	0.76	90	18	9	6	2	1
2364			16.1	23.6	1.09	80	38	19	7	7	7
2365			13.8**	31.5	1.95	72	26	11	6	2	5
2366			9.5	16.2	0.70	142	11	4	2	3	1
2367			8.3	6.7	0.49	22	7	2	0	0	0
Standard CJ5 with 800-lb Payload											
2023	T1	2.0	7.8	3.6	0.44	6	2	0	0	0	0
2025			9.0	7.0	0.49	51	2	1	0	0	0
2026			15.0	15.8	0.70	119	27	7	1	1	[illegible]
2027			10.5	11.6	0.56	87	8	4	0	0	0
2028			15.6	13.2	0.76	143	43	17	4	1	1
2029			14.9	15.5	0.76	158	41	10	8	0	1
2000	T3	0.6	7.6	0.8	0.20	0	0	0	0	0	0
2001			10.9	1.1	0.31	0	0	0	0	0	0
2002			15.7	1.6	0.33	10	0	0	0	0	0
2003			19.4	1.1	0.41	13	1	0	0	0	0
2004			24.4	2.0	0.47	21	1	0	0	0	0
2006			30.3	2.8	0.60	25	7	0	2	0	0
2007			39.1**	1.9	0.59	18	2	2	1	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2008	T4	1.2	6.8	0.8	0.32	0	0	0	0	0	0
2009			16.4	4.6	0.48	24	4	1	0	0	0
2010			10.5	3.4	0.39	6	1	0	0	0	0
2011			19.4	3.9	0.59	26	6	2	0	0	0
2012			14.7	3.3	0.46	10	1	0	0	0	0
2013			23.4	4.0	0.64	18	2	4	1	0	0
2014			16.4	2.9	0.42	9	1	0	0	0	0
2015			27.9**	3.1	0.69	29	6	0	1	0	0
2016	SR1	0.4	10.7	1.4	0.25	1	0	0	0	0	0
2017			15.2	1.7	0.25	0	0	0	0	0	0
2018			19.5	1.2	0.31	2	0	0	0	0	0
2019			23.9	1.8	0.37	8	0	0	0	0	0
2020			28.7	1.3	0.42	13	1	1	0	0	0
2021			36.4	1.4	0.51	23	1	0	0	0	0
2022			40.1	1.1	0.57	16	10	1	0	0	0
2030	CC1A	0.5	13.1	2.6	0.33	0	0	0	0	0	0
2033			22.5	2.0	0.45	8	0	0	0	0	0
2034			15.3	2.6	0.38	4	0	0	0	0	0
2035			24.6	1.7	0.47	16	1	0	0	0	0
2036			10.8	2.4	0.34	2	0	0	0	0	0
2037			37.0**	1.9	0.54	27	3	0	0	0	0
2038			17.4	2.2	0.43	5	0	0	0	0	0
2049	CC2A	1.4	6.1	2.2	0.34	3	0	0	0	0	0
2050			8.0	5.5	0.48	34	4	1	0	1	1
2051			9.5	10.3	0.64	53	16	2	1	2	0
2052			11.0	14.1	0.65	77	21	4	2	0	2
2053			9.0	10.4	0.63	59	11	2	3	2	1
2054			13.8**	17.3	0.72	73	18	11	4	2	2

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences, Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2061	CC3A	1.8	6.9	3.1	0.35	4	1	0	0	0	0
2062			9.2	8.8	0.52	26	5	0	1	0	0
2063			13.4**	16.0	0.79	54	12	4	0	2	1
2064			11.3	9.0	0.61	36	3	4	3	0	0
2065			11.8	15.6	0.64	52	8	3	0	1	2
2066			10.3	8.4	0.55	39	5	2	1	0	0
				Standard Scout with 800-lb Payload							
2766	T1	2.0	6.8	2.0	0.36	15	0	0	0	0	0
2767			7.6	2.5	0.39	17	5	2	0	0	0
2768			9.8	4.3	0.49	50	7	2	1	0	0
2769			11.2	7.2	0.56	96	21	3	2	1	0
2770			15.1	9.8	0.65	93	24	10	3	1	0
2771			12.0	8.6	0.59	80	20	14	3	2	0
2772			19.6**	10.6	0.77	146	46	13	7	3	0
2773			16.3	12.0	0.70	120	34	20	7	4	0
2748	T3	0.6	9.7	0.6	0.18	0	0	0	0	0	0
2749			19.5	1.5	0.29	0	0	0	0	0	0
2750			14.7	1.0	0.24	0	0	0	0	0	0
2751			25.0	1.2	0.36	5	0	0	0	0	0
2752			31.0	1.8	0.43	11	2	0	0	0	0
2753			35.4	1.9	0.45	8	1	0	0	0	0
2754	T4	1.2	6.8	0.6	0.26	0	0	0	0	0	0
2755			18.9	2.4	0.40	3	0	0	0	0	0
2756			9.9	1.1	0.26	2	0	0	0	0	0
2757			23.2	3.3	0.52	13	3	0	0	0	0
2758			28.0	5.3	0.62	13	5	4	1	0	0
2759			32.0	5.0	0.66	13	5	2	1	1	0
2760			36.5**	3.4	0.68	13	4	0	2	1	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2784	SR1	0.4	52.5	1.0	0.39	2	0	0	0	0	0
2785			10.0	0.6	0.16	0	0	0	0	0	0
2786			19.2	1.6	0.19	0	0	0	0	0	0
2787			28.7	1.5	0.34	5	0	0	0	0	0
2788			38.4	1.2	0.33	7	0	0	0	0	0
2780	CC1A	0.5	19.6	1.5	0.33	1	0	0	0	0	0
2781			9.9	0.9	0.21	0	0	0	0	0	0
2782			28.1	1.5	0.40	0	0	0	0	0	0
2783			39.5**	1.8	0.50	10	0	0	0	0	0
2761	CC2A	1.4	9.3	5.3	0.51	15	6	4	3	1	0
2762			6.2	1.4	0.32	9	2	0	0	0	0
2763			14.5**	12.4	0.74	36	18	14	3	3	3
2764			11.2	7.9	0.54	24	9	3	2	0	1
2765			11.4	7.3	0.55	26	16	7	3	1	0
2774	CC3A	1.8	8.6	4.0	0.47	20	4	1	0	0	0
2775			9.6	7.6	0.59	37	12	7	1	1	0
2776			11.9	7.8	0.55	31	8	2	1	1	2
2777			14.4	9.4	0.71	39	12	7	5	6	0
2778			9.6	5.9	0.50	25	10	5	0	0	0
2779			15.4**	10.5	0.86	49	17	3	5	2	2
					Standard Bronco with 800-lb Payload						
2962	T1	2.0	6.9	2.6	0.41	20	0	1	0	0	0
2963			8.1	7.3	0.55	19	8	5	4	1	0
2964			10.5	10.2	0.64	114	18	8	4	3	1
2965			12.2**	21.8	0.80	134	28	20	3	2	0

(Continued)

Table AI (Continued)

Test No.*	Test Course: Identification	Test Course: Roughness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses — No. of Occurrences, Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2943	T3	0.6	11.7	0.8	0.30	2	0	0	0	0	0
2944			21.3	1.6	0.46	27	9	1	0	0	0
2945			16.0	1.3	0.38	18	1	0	0	0	0
2946			26.8	2.5	0.56	25	11	2	1	0	0
2947			40.1**	7.3	0.64	35	8	3	1	0	0
2948			32.9	4.4	0.59	28	4	6	0	0	0
2949	T4	1.2	7.4	0.7	0.28	0	0	0	0	0	0
2950			15.7	5.6	0.57	26	11	3	2	1	0
2951			11.8	1.8	0.41	16	0	0	1	0	0
2952			20.5	3.6	0.61	38	8	2	1	0	0
2953			29.2**	9.5	0.87	43	23	5	1	1	1
2954			16.2	5.8	0.55	31	14	3	1	0	0
2955			16.9	5.2	0.55	33	10	3	0	0	0
2956			25.3	6.0	0.78	39	17	3	6	1	0
2957	SR1	0.4	48.7	1.2	0.61	28	8	3	0	0	0
2958			42.1	2.6	0.54	22	8	1	0	0	0
2959			30.7	1.4	0.41	13	3	1	0	0	0
2960			20.8	1.2	0.28	2	0	0	0	0	0
2961			11.7	0.6	0.18	0	0	0	0	0	0
2972	CC1A	0.5	20.4	2.4	0.52	22	3	0	1	2	0
2973			12.1	1.2	0.33	4	1	0	0	0	0
2974			30.3	5.1	0.67	42	8	0	0	0	0
2975			38.4**	3.5	0.65	38	9	1	0	0	0
2976			25.0	2.8	0.53	36	4	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2977	CC2A	1.4	10.4	17.6	0.67	64	18	5	4	1	2
2978			6.8	2.1	0.38	7	0	0	0	0	0
2979			13.2**	18.7	0.75	57	25	12	5	3	1
2980			8.3	6.8	0.50	25	4	2	0	0	0
2981			10.4	18.4	0.69	57	13	10	3	4	0
2982			9.6	10.4	0.60	34	13	3	1	1	1
2966	CC3A	1.8	7.0	3.3	0.44	26	5	2	0	0	0
2967			8.3	8.7	0.56	25	9	2	4	2	0
2968			12.6**	15.1	0.77	69	23	7	3	4	1
2969			9.9	16.6	0.68	73	19	6	4	2	0
2970			11.0	17.2	0.66	81	11	3	3	1	0
2971			8.3	8.6	0.53	38	6	3	3	0	0
					M151A2 with 800 lb-Payload (30 psi)						
2549	T1	2.0	6.4	3.3	0.31	7	1	0	0	0	0
2550			8.0	5.2	0.37	14	1	2	0	2	0
2551			10.0	7.7	0.43	58	4	1	0	0	0
2552			11.9	11.3	0.47	89	5	1	0	0	1
2553			14.0	14.1	0.55	92	30	3	0	0	0
2579	CC2A	1.4	6.1	2.0	0.32	5	0	0	0	0	0
2580			7.4	3.0	0.35	6	0	0	0	0	0
2581			9.7	5.4	0.42	38	3	0	0	0	0
2582			11.0	6.5	0.43	44	8	2	0	0	0
2583			14.1	10.1	0.62	75	24	9	3	2	2
2584			13.8	11.3	0.52	70	25	3	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	Cargo Responses: No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2566	CC3A	1.8	6.7	3.7	0.34	6	0	0	0	0	0
2567			8.3	6.2	0.40	9	2	0	0	0	0
2568			10.3	9.1	0.43	28	4	0	0	0	0
2569			11.9	11.3	0.47	50	3	2	0	0	0
2570			15.1	16.8	0.61	81	26	5	1	0	0
2571			14.1	13.8	0.56	76	17	1	0	0	0
2572			15.1	17.0	0.60	77	14	4	0	0	0
					M151A2 with 800-lb Payload (20 psi)						
2554	T1	2.0	5.7	2.1	0.28	1	0	0	0	0	0
2555			7.6	4.4	0.34	9	2	0	1	0	0
2556			9.6	5.9	0.37	24	0	0	0	0	0
2557			11.5	9.9	0.42	53	7	0	0	0	0
2558			14.2	11.4	0.50	111	20	2	0	0	0
2559			14.2	13.2	0.48	85	17	0	0	0	0
2615	T3	0.6	10.7	1.0	0.22	0	0	0	0	0	0
2616			15.5	2.8	0.23	0	0	0	0	0	0
2617			19.4	2.1	0.32	8	3	0	0	0	0
2618			23.9	3.0	0.32	3	0	0	0	0	0
2619			28.4	1.7	0.40	8	4	0	0	0	0
2620			39.5	7.4	0.50	26	1	2	0	0	0
2621			40.7**	5.8	0.43	13	0	0	0	0	0
2622	T4	1.2	10.5	2.4	0.28	0	0	0	0	0	0
2623			19.9	5.7	0.41	15	8	0	0	0	0
2624			14.7	3.0	0.30	1	0	0	0	0	0
2625			24.6	6.9	0.51	27	7	2	0	0	0
2626			31.0**	7.5	0.65	18	5	3	3	1	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2608	SR1	0.4	10.8	1.4	0.16	0	0	0	0	0	0
2609			19.4	1.6	0.18	0	0	0	0	0	0
2610			27.8	4.1	0.25	4	0	0	0	0	0
2611			35.9	2.8	0.34	6	1	1	0	0	0
2612			46.2	2.3	0.40	11	5	0	0	0	0
2613			22.0	2.7	0.21	1	0	0	0	0	0
2614			16.3	2.0	0 18	0	0	0	0	0	0
2603	CC1A	0.5	19.5	2.8	0.30	0	0	0	0	0	0
2604			10.8	1.9	0.22	0	0	0	0	0	0
2605			28.7	3.7	0.42	25	5	0	0	0	0
2606			36.4	4.3	0.52	19	2	0	0	0	0
2607			23.7	2.9	0.36	18	2	0	0	0	0
2593	CC2A	1.4	9.6	6.5	0.89	18	12	3	0	0	0
2594			6.3	3.3	0.32	6	0	0	0	0	0
2595			12.1	13.7	0.51	65	15	6	0	0	0
2596			8.0	4.8	0.39	11	2	1	0	0	0
2597			13.0	15.1	0.55	46	18	13	2	1	0
2573	CC3A	1.8	6.0	2.2	0.33	7	1	0	0	0	0
2574			7.6	4.3	0.38	18	3	1	0	0	0
2575			9.5	6.9	0.49	54	12	3	2	0	0
2576			11.5	8.0	0.47	49	10	5	1	0	0
2577			14.3	14.0	0.64	109	43	9	1	0	1
2578			11.9	8.7	0.49	53	17	3	0	0	0
					M151A2 with 800 lb Payload (15 psi)						
2560	T1	2.0	5.9	2.1	0.30	2	0	1	0	0	0
2561			7.8	3.6	0.33	8	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2562	T1	2.0	9.6	6.1	0.38	27	1	0	0	0	0
2563			11.4	8.5	0.38	37	3	1	0	0	0
2564			13.8	12.3	0.45	54	8	3	0	0	0
2565			14.8**	17.6	0.52	101	21	12	2	0	0
2598	CC2A	1.4	9.3	7.3	0.43	25	7	3	1	0	0
2599			6.5	2.5	0.29	0	0	0	0	0	0
2600			11.7	12.4	0.44	28	13	4	0	0	0
2601			8.0	4.7	0.37	9	1	0	0	0	0
2602			13.4	15.3	0.47	45	13	1	0	0	0
2579	CC3A	1.8	6.1	2.0	0.32	5	0	0	0	0	0
2580			7.4	3.0	0.35	6	0	0	0	0	0
2581			9.7	5.4	0.42	38	3	0	0	0	0
2582			11.0	6.5	0.43	44	8	2	0	0	0
2583			14.1	10.1	0.62	75	24	9	3	2	0
2584			13.8	11.3	0.52	70	25	3	0	0	0
				High Performance Ramcharger with 800 lb Payload							
2247	T1	2.0	6.0	3.4	0.37	7	1	0	0	0	0
2249			9.4	7.4	0.55	54	11	3	0	0	0
2250			10.7**	16.1	0.66	126	35	3	1	0	1
2251			8.8	7.1	0.52	58	7	0	0	0	0
2252			6.6	6.0	0.46	50	8	1	1	0	0
2226	T3	0.6	4.9	0.4	0.21	0	0	0	0	0	0
2227			19.9	3.1	0.37	7	0	0	0	0	0
2228			28.1	1.9	0.44	12	2	0	0	0	0
2229			35.9	3.2	0.55	19	4	2	0	0	0
2230			11.7	1.3	0.28	0	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2231	T3	0.6	13.9	3.2	0.31	5	0	0	0	0	0
2232			22.9	2.9	0.51	17	2	2	0	0	0
2233			9.9	1.0	0.25	0	0	0	0	0	0
2233A	T4	1.2	10.2	2.6	0.34	3	0	0	0	0	0
2234			18.8	9.0	0.57	28	8	0	0	0	0
2235			14.3	4.7	0.46	17	4	0	0	0	0
2236			22.0	6.9	0.75	40	12	4	2	0	0
2237			15.6	4.8	0.48	22	5	0	0	0	0
2238			24.4	7.1	0.83	23	17	4	1	1	0
2240			26.6**	6.8	0.85	25	14	7	2	1	0
2241	SR1	0.4	14.5	2.5	0.26	2	0	0	0	0	0
2242			20.1	2.5	0.29	1	0	0	0	0	0
2243			25.3	2.4	0.37	4	2	0	0	0	0
2244			34.5	2.6	0.43	11	1	0	0	0	0
2245			9.8	1.1	0.23	0	0	1	0	0	0
2246			37.9	2.6	0.55	21	10	0	1	0	0
2260	CC1A	0.5	9.9	1.4	0.28	0	0	0	0	0	0
2261			27.8	2.8	0.61	66	10	2	0	0	0
2262			14.8	3.6	0.38	5	1	0	0	0	0
2263			32.1	3.6	0.74	61	20	7	0	0	0
2264			14.7	2.6	0.35	2	0	0	0	0	0
2265	CC2A	1.4	6.4	3.5	0.38	10	0	0	0	0	0
2266			8.6	6.0	0.50	33	3	0	0	0	0
2267			11.4	15.7	0.60	62	17	7	1	0	0
2268			14.8	21.3	0.74	75	26	7	2	2	0
2270			9.4	7.6	0.57	30	3	1	1	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course: Identification	Test Course: Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences, Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2253	CC3A	1.8	6.2	3.1	0.36	9	1	0	0	0	0
2254			8.4	5.1	0.47	19	3	0	0	0	0
2255			13.9**	29.0	0.84	59	19	5	2	4	2
2256			10.4	12.6	0.65	44	12	1	1	0	0
2258			8.3	7.4	0.49	19	5	1	0	1	1
High Performance Blazer with 800 lb Payload											
2460	T1	2.0	10.6	12.4	0.66	73	34	11	5	1	1
2461			7.6	6.7	0.48	61	4	0	0	0	0
2462			11.5	14.0	0.71	145	42	11	6	3	1
2463			13.8**	26.0	0.86	182	81	29	10	7	1
2464			15.2	29.0	0.88	138	67	23	11	10	3
2465			6.0	4.2	0.38	10	0	1	0	0	0
2440	T3	0.6	13.8	2.1	0.38	17	3	0	0	0	0
2441			18.7	3.3	0.46	31	6	1	1	0	0
2442			21.0	2.9	0.54	63	3	4	0	0	0
2443			28.7	3.2	0.62	33	14	4	3	0	0
2444			38.4	4.7	0.78	44	14	9	1	0	0
2445	T4	1.2	13.6	4.3	0.52	56	10	0	0	0	0
2446			22.0	6.9	0.79	60	24	10	4	2	0
2447			16.9	8.3	0.64	49	18	2	2	1	0
2448			9.0	1.5	0.34	4	1	0	0	0	0
2449			29.2	7.9	1.02	9	19	14	6	4	1
2450			35.9**	8.1	1.04	10	23	17	5	6	2

(Continued)

Table A1 (Continued)

Test No.*	Test Course: Identification	Test Course: Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences, Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2451	SK1	0.4	22.0	3.5	0.40	22	1	0	0	0	0
2452			31.4	0.7	0.41	13	0	0	0	0	0
2453			40.7	2.4	0.61	33	10	3	1	0	0
2454			50.5	0.9	0.52	49	2	0	0	0	0
2455			15.4	3.7	0.31	5	0	0	0	0	0
2456			26.1	0.4	0.37	4	0	0	0	0	0
2457			26.5	1.3	0.36	7	0	0	0	0	0
2458			35.4	0.4	0.39	6	1	0	0	0	0
2459			11.9	0.4	0.21	0	0	0	0	0	0
2472	CC1A	0.5	16.4	4.5	0.37	4	0	0	0	0	0
2473			12.1	2.7	0.32	1	1	0	0	0	0
2474			21.6	4.3	0.47	21	4	0	0	0	0
2475			30.0	4.0	0.62	43	6	2	0	0	0
2476			42.6**	4.0	0.70	43	9	2	1	0	1
2477	CC2A	1.4	8.5	5.4	0.49	21	4	2	1	0	0
2478			11.4	13.4	0.67	59	12	3	5	0	0
2479			15.8	25.0	0.94	67	13	10	5	3	3
2480			9.0	6.8	0.56	31	8	3	0	0	0
2466	CC3A	1.8	8.1	5.2	0.50	29	8	5	0	1	0
2467			11.0**	19.9	0.76	53	21	9	7	3	1
2468			10.2	14.7	0.67	52	16	9	1	1	0
2469			6.2	3.4	0.36	5	0	0	0	0	0
2470			10.1	14.4	0.66	47	7	3	3	1	0
2471			8.6	7.7	0.52	35	5	1	0	0	0
				High Performance CJ5 with 800 lb Payload							
2660	T1	2.0	6.5	3.3	0.36	4	0	0	0	0	0
2661			8.6	5.8	0.46	40	3	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2662	T1	2.0	10.6	10.4	0.58	76	13	6	1	0	0
2663			11.7	12.4	0.62	121	24	3	2	2	1
2664			13.2	13.7	0.64	109	29	2	2	0	1
2665			15.3**	16.8	0.83	136	52	9	4	4	5
2639	T3	0.6	11.2	1.6	0.34	4	0	0	0	0	0
2640			15.6	1.4	0.36	3	0	1	0	0	0
2641			20.1	2.1	0.46	13	3	1	0	0	0
2642			23.7	2.0	0.50	30	2	0	0	0	0
2643			20.1	2.2	0.46	13	2	0	0	1	0
2644			23.9	1.9	0.48	17	4	0	0	0	0
2645			15.3	2.0	0.37	4	1	0	0	0	0
2646			28.7	1.5	0.52	23	3	1	0	0	0
2647	T4	1.2	6.8	1.1	0.29	0	0	0	0	0	0
2648			15.4	4.1	0.49	22	3	3	0	0	0
2649			11.2	2.4	0.38	4	0	0	0	0	0
2650			19.9	4.5	0.54	23	5	0	0	0	0
2651			23.2	3.1	0.63	34	3	1	1	0	0
2652			29.6**	3.5	0.72	21	7	3	2	0	0
2653	SR1	0.4	11.2	1.4	0.22	0	0	0	0	0	0
2654			19.9	2.3	0.35	5	0	0	0	0	0
2655			27.3	1.9	0.42	13	0	0	0	0	0
2656			36.4	1.4	0.48	11	3	1	1	0	0
2657			15.6	2.2	0.28	0	0	0	0	0	0
2658			44.7	1.2	0.55	23	3	0	0	0	0
2659			15.1	2.0	0.26	0	0	0	0	0	0
2672	CC1A	0.5	18.8	2.0	0.44	5	2	0	0	0	0
2673			10.4	2.2	0.30	0	0	0	0	0	0
2674			27.0	2.0	0.56	35	5	0	0	0	0
2675			36.9**	1.9	0.63	36	8	0	0	0	0
2676			9.8	1.6	0.29	1	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2677	CC2A	1.4	6.0	2.2	0.34	3	0	0	0	0	0
2678			7.6	4.2	0.41	10	1	1	0	0	0
2679			9.9	13.1	0.62	41	4	4	3	1	0
2680			12.0**	13.0	0.69	62	17	2	1	2	1
2681			8.8	9.7	0.56	25	7	2	0	1	0
2682			7.2	4.6	0.41	13	1	0	0	1	0
2666	CC3A	1.8	7.9	5.0	0.43	13	3	0	0	0	0
2667			8.6	7.5	0.51	21	5	1	0	0	0
2668			10.9	16.5	0.62	41	8	1	2	1	0
2669			12.1**	14.0	0.62	74	6	2	0	0	0
2670			9.6	12.3	0.55	29	4	1	0	1	0
2671			6.1	2.8	0.34	0	0	0	0	0	0
					High Performance Scout with 800 lb Payload						
3012	T1	2.0	6.8	2.8	0.42	25	1	0	0	0	0
3013			7.6	5.2	0.49	66	7	0	0	0	0
3014			10.4	8.2	0.60	119	13	3	0	0	0
3015			10.8	11.6	0.57	150	24	1	0	0	0
3016			14.6	13.2	0.69	174	38	9	0	0	0
3017			12.7**	15.5	0.65	138	36	11	3	1	0
2993	T3	0.6	10.9	1.2	0.32	7	0	0	0	0	0
2994			20.5	2.6	0.47	24	3	1	0	0	0
2995			15.3	1.6	0.40	15	2	0	0	0	0
2996			24.6	2.5	0.54	30	7	4	1	1	0
2997			29.0	2.8	0.59	41	8	1	0	0	0
2998			40.1	6.1	0.79	16	7	7	2	2	0
2999			44.5**	6.5	0.77	18	9	2	3	1	0
3000			33.7	4.0	0.70	31	12	5	1	1	0

(Continued)

Table A11 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
3001	T4	1.2	11.5	2.1	0.39	0	0	0	0	0	0
3002			20.5	3.6	0.56	2	4	1	1	0	0
3003			15.9	2.7	0.49	27	2	1	0	0	0
3005			31.5**	6.1	0.88	143	15	3	1	3	0
3006			24.1	4.0	0.76	49	7	9	0	1	0
3007	SR1	0.4	50.5	1.0	0.51	14	5	1	0	0	0
3008			38.4	2.4	0.44	12	0	0	0	0	0
3009			28.7	2.3	0.39	4	0	0	0	0	0
3010			20.1	2.3	0.35	7	0	0	0	0	0
3011			11.0	1.3	0.29	0	0	0	0	0	0
3024	CC1A	0.5	19.4	2.3	0.47	17	3	0	0	0	0
3025			11.3	1.6	0.32	2	0	0	0	0	0
3026			28.1	3.4	0.67	48	2	1	0	0	0
3027			36.9**	4.3	0.75	45	1	0	0	0	0
3028			33.3	4.0	0.69	48	4	0	0	0	0
3030	CC2A	1.4	9.5	10.8	0.61	60	10	4	1	0	0
3031			7.1	3.0	0.40	2	0	0	0	0	0
3032			12.0**	16.2	0.68	55	27	7	0	1	0
3033			5.9	2.4	0.36	15	3	0	0	0	0
3034			8.9	8.7	0.64	53	16	1	4	2	1
3018	CC3A	1.8	10.9	13.4	0.54	49	8	0	0	0	0
3019			6.0	2.2	0.34	4	0	0	0	0	0
3020			12.0**	14.1	0.63	57	10	2	0	0	0
3021			8.0	4.6	0.47	24	3	1	0	0	0
3022			10.0	12.7	0.58	37	6	1	0	1	0
3023			9.3	12.0	0.61	39	5	3	2	1	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
				High Performance Bronco with 800 lb Payload							
2860	T1	2.0	6.6	2.7	0.45	56	10	1	0	0	0
2861			7.4	3.8	0.47	75	3	0	0	0	0
2862			10.8	7.5	0.65	209	43	10	2	0	1
2863			12.3	13.4	0.76	248	64	27	9	1	1
2864			14.5**	18.1	0.89	211	104	44	14	5	0
2843	T3	0.6	10.6	1.1	0.32	7	0	0	0	0	0
2844			20.4	1.5	0.51	32	6	3	0	1	0
2845			14.4	1.0	0.40	25	3	0	0	0	0
2846			25.6	1.8	0.58	44	7	3	1	0	0
2847			39.3**	6.0	0.92	49	17	2	2	0	0
2848	T4	1.2	10.8	2.0	0.43	21	1	1	0	0	0
2849			19.5	3.4	0.64	53	4	4	2	0	0
2850			14.8	2.2	0.56	40	9	1	0	0	0
2851			26.1**	4.7	0.84	40	17	4	3	3	0
2852			6.2	1.0	0.31	0	0	0	0	0	0
2853	SR1	0.4	10.8	0.9	0.27	0	0	0	0	0	0
2854			19.9	2.2	0.41	15	1	0	0	0	0
2855			29.3	2.1	0.52	22	5	2	0	0	0
2856			37.9	3.6	0.65	38	11	3	0	0	1
2857			48.7	1.9	0.89	36	14	3	6	3	0
2858			27.3	2.0	0.53	25	9	3	2	0	0
2859			29.6	3.1	0.54	25	9	2	2	0	0
2872	CC1A	0.5	19.2	2.2	0.57	45	15	0	0	0	0
2873			10.7	1.5	0.40	19	3	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course: Identi-fication	Test Course: Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2874	CC1A	0.5	28.4	3.3	0.69	66	17	2	0	0	0
2875			35.9**	4.2	0.84	183	34	4	2	0	0
2876			21.5	2.3	0.58	56	12	1	0	0	0
2877			16.7	2.1	0.54	57	5	0	0	0	0
2878	CC2A	1.4	12.1	17.4	0.76	94	32	7	3	2	0
2880			14.5**	19.7	0.82	86	35	11	4	3	0
2881			8.7	6.1	0.55	56	8	1	0	0	0
2882			10.9	13.1	0.66	75	21	6	0	1	0
2883			6.0	2.1	0.39	18	4	0	0	0	0
2884			5.9	1.8	0.36	4	0	0	0	0	0
2866	CC3A	1.8	8.0	7.5	0.53	48	3	3	0	0	0
2867			8.9	8.2	0.59	66	9	2	1	0	0
2868			11.8	12.2	0.66	82	29	3	1	0	0
2869			13.4	11.6	0.78	108	41	9	0	0	0
2870			14.9**	14.5	0.85	93	42	14	1	2	0
2871			5.7	2.0	0.36	3	0	0	0	0	0
				Standard Ramcharger with 1885 lb Rated Payload							
2204	T1	2.0	5.4	2.8	0.32	1	1	0	0	0	0
2205			7.6	6.2	0.41	8	1	1	1	1	2
2206			13.6**	19.0	0.70	100	30	5	1	6	0
2207			10.0	8.1	0.51	60	11	0	0	0	0
2208			10.6	10.9	0.60	64	17	6	1	2	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences, Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2172	T3	0.6	9.8	1.0	0.27	0	1	0	0	0	0
2173			14.8	2.6	0.41	22	2	0	0	0	0
2174			11.3	1.5	0.29	1	0	0	0	0	0
2175			17.3	3.9	0.39	16	1	0	0	1	0
2176			24.3	2.5	0.48	11	6	6	0	0	0
2177			31.2	2.8	0.50	23	2	0	0	0	0
2178			22.4	2.3	0.41	16	3	0	0	0	0
2179	T4	1.2	7.5	1.4	0.28	0	0	0	0	0	0
2180			10.7	3.0	0.34	6	0	0	0	0	0
2181			15.2	4.2	0.51	15	3	3	0	1	0
2182			21.1	6.0	0.55	29	8	1	0	0	0
2183			22.7	4.0	0.53	14	3	3	0	0	0
2184			29.7**	5.3	0.64	26	5	3	2	0	0
2185			27.8	5.8	0.62	12	7	4	1	0	0
2186			19.6	4.6	0.55	27	1	0	1	1	0
2195	SR1	0.4	15.8	2.4	0.25	0	0	0	0	0	0
2196			22.0	2.2	0.33	1	0	0	0	0	0
2197			14.7	2.5	0.25	0	0	0	0	0	0
2198			21.8	2.0	0.32	0	0	0	0	0	0
2199			30.6	3.1	0.43	20	0	0	0	0	0
2200			40.1	1.6	0.52	7	7	2	1	0	0
2201			26.7	2.4	0.35	15	0	0	0	0	0
2202			28.1	2.9	0.38	17	0	0	0	0	0
2203			34.5	1.6	0.37	5	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2214	CC1A	0.5	18.7	3.9	0.37	3	0	0	0	0	0
2215			22.4	3.6	0.41	7	1	0	0	0	0
2216			26.0	3.5	0.43	14	0	0	0	0	0
2217			27.8	4.3	0.44	19	0	0	0	0	0
2218			35.0	3.6	0.51	16	2	0	0	0	0
2219			12.9	2.9	0.30	2	0	0	0	0	0
2220			9.3	1.5	0.25	1	0	0	0	0	0
2221	CC2A	1.4	8.3	5.3	0.40	7	1	0	0	0	0
2222			10.2	9.2	0.50	22	6	1	0	0	0
2223			11.8	17.5	0.62	30	9	2	1	1	0
2224			7.8	4.0	0.40	13	2	0	0	0	0
2225			6.4	4.1	0.35	5	1	0	0	0	0
2209	CC3A	1.8	5.5	2.5	0.33	1	0	0	0	0	0
2210			8.6	6.7	0.42	13	1	0	0	0	0
2211			12.2	18.2	0.64	55	6	0	2	0	1
2212			10.2	8.9	0.54	25	6	4	1	0	0
2213			7.7	5.7	0.40	9	0	0	1	0	0
					Standard Blazer with 1660 lb Rated Payload						
2409	T1	2.0	6.2	3.3	0.35	7	0	0	0	0	0
2410			8.2	6.5	0.47	36	5	2	0	0	0
2411			9.8	8.3	0.53	48	11	1	1	1	0
2412			11.8**	15.4	0.65	109	14	9	3	1	1

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2391	T3	0.6	10.3	0.2	0.29	1	0	0	0	0	0
2392			15.8	2.7	0.31	2	0	0	0	0	0
2393			20.5	2.2	0.44	19	4	0	0	0	0
2394			25.5	2.7	0.49	25	6	1	0	0	0
2395			11.7	1.6	0.30	3	0	0	0	0	0
2396			32.5	3.8	0.59	14	7	2	1	0	0
2397			40.7**	5.7	0.70	17	11	2	2	1	0
2398	T4	1.2	11.2	2.7	0.37	5	0	0	0	0	0
2399			20.7	5.4	0.52	17	4	1	2	0	0
2400			15.4	4.2	0.46	18	3	1	0	0	0
2401			25.0	6.1	0.71	26	14	4	1	1	0
2402			30.1**	4.8	0.73	22	8	2	2	2	0
2403	SR1	0.4	47.9	2.0	0.59	16	8	2	0	0	0
2404			40.1	3.1	0.45	14	2	1	0	0	0
2405			30.0	1.9	0.39	13	1	0	0	0	0
2406			21.3	2.3	0.31	4	0	0	0	0	0
2407			35.0	2.7	0.42	5	3	0	0	0	0
2408			12.6	1.5	0.21	0	0	0	0	0	0
2419	CC1A	0.5	18.8	2.5	0.88	5	0	0	0	0	0
2420			31.0	4.0	0.53	26	8	1	0	0	0
2421			11.1	1.8	0.30	2	0	0	0	0	0
2422			37.9**	4.8	0.67	53	6	3	0	0	0
2423			25.9	3.0	0.51	31	2	0	0	0	0
2424	CC2A	1.4	5.1	2.6	0.32	4	0	0	0	0	0
2425			9.0	6.0	0.48	17	3	0	0	0	0
2426			10.3	14.8	0.69	38	10	3	1	2	3

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2427	CC2A	1.4	12.9	15.7	0.67	35	16	1	2	1	0
2428			10.1	12.7	0.65	33	15	1	3	1	0
2429			10.4	11.3	0.64	26	7	0	1	4	0
2413	CC3A	1.8	8.3	6.6	0.46	15	3	0	0	0	0
2414			9.1	11.0	0.62	30	9	2	2	1	0
2415			11.2	18.5	0.65	37	9	6	3	1	0
2416			13.6**	16.9	0.69	50	13	4	0	1	0
2417			5.1	2.0	0.30	1	0	0	0	0	0
2418			11.0	15.9	0.65	40	8	5	0	1	0
					Standard CJ5 with 1330 lb Rated Payload						
2088	T1	2.0	6.9	2.8	0.37	14	0	0	0	0	0
2089			9.4	9.8	0.56	57	11	8	2	1	0
2090			15.2**	15.9	0.75	174	34	11	6	2	1
2091			11.6	16.0	0.67	137	39	9	7	0	0
2092			12.1	11.5	0.64	109	24	3	1	3	0
2069	T3	0.6	6.8	0.6	0.25	0	0	0	0	0	0
2070			10.9	1.1	0.28	0	0	0	0	0	0
2071			15.2	1.7	0.37	6	2	0	0	0	0
2072			18.8	2.8	0.40	18	0	0	0	0	0
2073			20.5	1.7	0.44	13	3	1	0	0	0
2074			27.3	2.8	0.55	30	10	3	2	0	0
2075			27.6	1.6	0.60	28	12	2	1	1	0
2076	T4	1.2	6.9	1.0	0.32	0	0	0	0	0	0
2077			10.5	2.7	0.35	4	0	0	0	0	0
2078			14.4	3.1	0.48	18	2	1	0	0	0
2079			22.1	4.6	0.63	34	8	2	2	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power Watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences, Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2080	T4	1.4	18.3	3.3	0.58	27	10	5	0	0	0
2081			21.8	4.2	0.60	40	8	1	1	0	0
2082			27.6**	3.4	0.68	29	10	5	1	0	0
2083	SR1	0.4	10.9	0.9	0.22	0	0	0	0	0	0
2084			15.2	1.8	0.26	0	0	0	0	0	0
2085			18.9	1.5	0.32	5	0	0	0	0	0
2086			23.3	1.9	0.37	11	2	0	0	0	0
2087			31.0	1.4	0.50	34	5	1	0	0	0
2099	CC1A	0.5	5.3	0.7	0.24	0	0	0	0	0	0
2100			10.2	1.5	0.35	2	0	0	0	0	0
2101			16.9	2.8	0.42	5	1	0	0	0	0
2102			21.0	2.1	0.45	8	0	0	0	0	0
2103			23.9	2.0	0.46	15	1	0	0	0	0
2104	CC2A	1.4	5.8	2.3	0.36	3	1	0	0	0	0
2105			8.8	9.5	0.58	24	4	1	2	0	0
2106			14.1**	20.6	0.71	41	13	7	1	0	0
2107			11.4	14.7	0.71	39	12	5	1	0	0
2108			10.2	14.1	0.64	27	7	3	2	1	1
2093	CC3A	1.8	6.3	2.0	0.36	7	0	0	0	0	0
2094			7.8	5.0	0.49	11	4	1	0	0	0
2095			10.0	13.4	0.58	23	9	2	2	0	1
2096			11.5	13.2	0.68	64	9	4	1	0	0
2097			8.3	11.0	0.57	16	9	3	0	0	0
2098			8.6	7.6	0.56	18	4	2	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
					Standard Scout with 1919 lb Rated Payload						
2820	T1	2.0	9.6	6.0	0.55	74	19	4	5	2	1
2821			11.6	9.6	0.71	175	59	25	12	6	1
2822			16.8**	9.6	0.72	167	48	18	6	5	0
2823			6.3	2.0	0.86	114	64	36	36	9	1
2824			13.0	10.3	0.71	129	39	15	5	7	3
2825			16.3	13.2	0.84	184	72	45	26	15	2
2804	T3	0.6	9.6	0.7	0.22	0	0	0	0	0	0
2805			18.9	1.8	0.36	12	4	0	0	0	0
2806			14.1	1.2	0.30	18	3	0	0	0	0
2807			24.1	5.5	0.47	14	10	3	1	1	0
2808			36.4	3.0	0.69	26	11	6	3	0	0
2809	T4	1.2	10.6	1.3	0.34	15	3	0	0	0	0
2810			20.3	4.9	0.63	163	90	5	0	2	0
2811			15.2	2.1	0.47	28	8	0	1	1	0
2812			26.2	3.5	0.67	31	10	4	2	3	0
2813			21.3	4.4	0.58	36	12	4	1	1	0
2814			32.0**	3.6	0.64	25	12	4	3	0	0
2799	SR1	0.4	47.9	1.2	0.40	12	2	1	0	0	0
2800			39.0	1.3	0.39	12	4	0	0	0	0
2801			29.3	1.5	0.30	0	0	0	0	0	0
2802			18.9	0.9	0.20	0	0	0	0	0	0
2803			9.7	0.6	0.16	0	0	0	0	0	0
2831	CC1A	0.5	20.8	1.3	0.34	9	0	0	0	0	0
2832			11.6	1.1	0.25	4	1	0	0	0	0
2833			25.0	1.5	0.40	16	1	0	0	0	0

(Continued)

Table A11 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2834	CC1A	0.5	32.1	1.7	0.49	23	1	0	0	1	0
2835			35.4	1.5	0.41	9	1	0	0	0	0
2815	CC2A	1.4	13.0	10.8	0.67	75	28	13	5	4	0
2816			8.9	3.2	0.44	37	11	4	1	0	0
2817			15.5**	12.1	0.76	106	31	12	6	3	0
2818			11.1	8.4	0.64	55	29	3	3	3	1
2819			9.7	5.9	0.57	56	16	8	6	2	0
2826	CC3A	1.8	10.1	8.6	0.57	62	19	7	3	1	1
2827			11.1	10.4	0.65	58	22	10	2	3	1
2828			13.2	11.4	0.69	76	10	7	5	2	1
2829			15.5**	18.0	0.82	51	21	13	2	4	2
2830			7.2	3.7	0.55	25	2	1	0	0	1
			High Performance Ramcharger with 1885 lb Rated Payload								
2310	T1	2.0	7.3	3.8	0.35	3	0	0	0	0	0
2311			9.3	6.8	0.45	18	2	0	0	0	0
2312			11.3	13.1	0.58	42	11	3	2	2	0
2313			15.0**	21.1	0.71	98	38	15	7	1	0
2298	T3	0.6	9.7	0.8	0.24	0	0	0	0	0	0
2299			18.3	2.9	0.31	3	0	0	0	0	0
2300			14.3	1.5	0.28	2	0	0	0	0	0
2301			23.3	2.1	0.39	6	0	2	0	0	0
2302			27.6	2.9	0.44	9	4	2	0	0	0
2303	T4	1.2	5.5	0.6	0.22	0	0	0	0	0	0
2304			14.6	6.6	0.37	9	0	0	0	0	0
2305			9.8	1.5	0.27	0	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identification	Test Course Roughness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2306	T4	1.2	18.9	5.6	0.47	3	1	0	0	0	0
2307			12.2	2.9	0.37	9	0	0	0	0	0
2308			21.3	5.6	0.58	18	3	1	0	0	0
2309			28.0**	5.3	0.61	16	6	4	0	0	0
2291	SR1	0.4	14.2	2.1	0.44	0	0	0	0	0	0
2292			18.6	2.1	0.22	0	0	0	0	0	0
2293			24.8	2.0	0.28	0	0	0	0	0	0
2294			37.4	2.4	0.42	16	5	0	0	0	0
2295			43.3	2.3	0.59	22	5	0	0	0	0
2296			28.7	1.6	0.28	0	0	0	0	0	0
2297			10.3	0.7	0.16	0	0	0	0	0	0
2325	CC1A	0.5	25.3	2.7	0.35	3	0	0	0	0	0
2326			15.3	3.5	0.29	0	0	0	0	0	0
2327			29.0	3.1	0.40	6	0	0	0	0	0
2328			19.1	3.4	0.31	0	0	0	0	0	0
2329			20.8	2.6	0.32	1	0	0	0	0	0
2330			9.6	1.3	0.22	0	0	0	0	0	0
2331			11.8	1.6	0.25	0	1	0	0	0	0
2332			16.0	3.8	0.28	0	0	0	0	0	0
2319	CC2A	1.4	7.0	4.5	0.69	1	0	0	0	0	0
2320			8.0	4.1	0.41	10	2	0	0	1	0
2321			10.4	10.7	0.52	15	6	2	4	1	0
2322			13.7**	18.0	0.63	36	10	5	0	1	1
2323			9.1	6.1	0.45	11	3	1	0	0	0
2324			6.5	3.2	0.31	1	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences, Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2314	CC3A	1.8	6.6	2.7	0.34	3	0	0	0	0	0
2315			7.4	4.3	0.39	4	0	0	1	0	0
2316			10.0	11.3	0.57	24	4	3	2	0	0
2317			12.6**	14.4	0.64	31	8	2	4	1	0
2318			9.7	8.9	0.54	24	2	2	0	3	1
High Performance Blazer with 1660 lb Rated Payload											
2517	T1	2.0	14.4**	25.4	0.84	167	74	30	14	5	2
2518			11.9	17.9	0.71	183	43	17	3	2	1
2519			11.1	11.6	0.71	126	36	8	4	4	2
2520			9.5	8.9	0.56	108	14	3	3	0	0
2521			10.9	12.7	0.67	124	37	7	3	1	1
2522			7.4	5.6	0.43	32	4	1	0	0	0
2494	T3	0.6	16.5	2.7	0.34	3	1	0	0	0	0
2495			22.4	2.7	0.39	10	1	1	0	0	0
2496			26.2	2.5	0.47	18	2	0	0	0	0
2497			32.9	3.9	0.52	15	4	0	1	0	0
2498			12.0	1.8	0.27	1	1	0	0	0	0
2499			40.7	6.1	0.56	19	2	3	0	0	0
2506	T4	1.2	15.7	6.0	0.45	11	2	0	0	0	0
2507			21.3	6.8	0.60	24	4	2	0	0	0
2508			11.8	2.4	0.50	5	5	3	0	2	3
2509			35.3**	6.1	0.86	33	9	6	2	2	1
2510	SR1	0.4	12.0	0.7	0.19	1	0	0	1	0	0
2511			21.2	3.2	0.29	4	0	0	0	0	0
2512			30.3	1.4	0.41	9	7	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences, Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2513	SR1	0.4	40.1	3.0	0.41	13	1	1	0	0	0
2514			17.0	1.6	0.22	0	0	0	0	0	0
2515			50.5	1.7	0.57	13	9	0	0	0	0
2516			25.5	1.8	0.29	4	0	0	0	0	0
2534	CC1A	0.5	21.0	5.7	0.44	18	0	0	0	0	0
2535			11.6	2.3	0.30	2	0	0	0	0	0
2536			30.6	3.8	0.59	44	10	0	0	0	0
2537			40.7**	4.3	0.67	47	16	2	0	0	0
2538			14.9	3.2	0.39	12	0	0	0	0	0
2539			25.3	4.2	0.55	49	8	0	0	0	0
2540			20.1	4.8	0.49	46	5	1	0	0	0
2523	CC2A	1.4	6.8	4.3	0.41	16	4	0	0	0	1
2524			9.4	6.2	0.56	38	6	2	1	1	0
2525			11.0	13.1	0.64	57	15	2	3	3	0
2526			12.4**	20.2	0.71	67	8	9	0	2	2
2527			11.4	11.4	0.63	50	14	2	2	0	2
2528	CC3A	1.8	7.7	6.9	0.56	34	7	0	0	0	0
2529			8.9	8.8	0.54	32	8	0	1	0	0
2530			10.4	12.8	0.64	55	15	4	2	1	0
2531			12.6**	16.8	0.70	61	13	9	1	0	0
2532			12.2	20.5	0.73	88	22	11	4	1	1
2533			11.2	16.1	0.66	54	17	4	3	1	0
				High Performance CJ5 with 1300 lb Rated Payload							
2711	T1	2.0	7.8	4.6	0.43	21	2	1	0	1	1
2712			9.3	8.1	0.56	59	12	6	3	1	3
2713			13.4	11.8	0.62	116	21	6	0	1	0
2714			12.0	11.9	0.60	95	15	5	2	0	0
2715			15.4**	14.2	0.72	152	45	6	3	1	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course: Identi-fication	Test Course: Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences, Peak Composite Acceleration Levels, g: >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2693	T3	0.6	11.2	1.7	0.29	0	0	0	0	0	0
2694			18.9	2.6	0.40	6	1	0	0	0	0
2695			14.4	2.0	0.34	3	1	0	0	0	0
2696			22.6	2.0	0.42	13	1	0	0	0	0
2697			40.0**	2.2	0.74	24	10	0	0	0	0
2698	T4	1.2	9.9	2.2	0.33	1	0	0	0	0	0
2699			17.3	3.9	0.45	13	1	0	0	0	0
2700			13.1	2.6	0.41	11	2	0	0	0	0
2701			23.5	3.8	0.62	22	7	2	0	0	0
2702			28.8**	3.6	0.71	16	6	3	2	0	0
2703	SR1	0.4	11.3	1.0	0.21	0	0	0	0	0	0
2704			21.5	2.3	0.33	5	0	0	0	0	0
2705			29.0	1.4	0.41	13	3	0	0	0	0
2706			40.7	1.4	0.58	18	3	1	1	0	0
2707			28.1	1.5	0.41	9	4	0	0	0	0
2708			43.3	1.4	0.54	14	6	1	0	0	0
2709			17.0	2.7	0.28	1	0	0	0	0	0
2710			36.4	1.6	0.50	12	6	2	0	1	0
2724	CC1A	0.5	19.8	2.5	0.46	10	5	0	0	1	0
2725			10.5	1.8	0.28	1	0	0	0	0	0
2726			23.9	2.1	0.47	15	1	0	0	0	0
2727			29.0	2.2	0.56	32	1	1	0	0	0
2728			35.4**	2.6	0.61	34	1	1	0	0	0
2730	CC2A	1.4	8.0	5.8	0.45	10	1	3	0	1	0
2731			10.5	18.7	0.62	25	9	3	2	1	0
2732			13.6**	17.9	0.68	51	11	10	3	1	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2732A	CC2A	1.4	10.2	15.8	0.56	25	8	3	2	0	0
2733			7.2	3.0	0.36	1	1	0	0	0	0
2734			8.9	7.0	0.47	13	3	0	1	0	0
2716	CC3A	1.8	9.0	6.7	0.48	15	4	0	1	0	0
2717			12.2	12.2	0.55	34	4	2	0	0	0
2718			10.3	13.8	0.54	33	5	2	1	0	0
2719			14.0**	13.0	0.69	63	17	6	3	2	0
2720			16.1	15.7	0.75	66	13	7	4	0	0
2721			11.5	16.1	0.59	34	6	4	1	1	0
2722			10.9	12.2	0.51	24	8	3	2	1	1
2723			6.3	2.6	0.32	0	0	0	0	0	0
				High Performance Scout with 1919 lb Rated Payload							
3060	T1	2.0	5.9	2.4	0.35	4	0	1	0	0	0
3061			7.4	3.4	0.40	16	3	1	0	0	0
3062			9.7	6.2	0.53	57	12	4	2	2	0
3063			10.9	12.2	0.62	88	22	11	5	3	0
3042	T3	0.6	10.7	0.8	0.29	0	0	0	0	0	0
3043			20.2	2.0	0.37	12	0	0	0	0	0
3044			15.5	1.3	0.36	0	1	1	0	0	0
3045			24.4	2.5	0.42	18	0	0	0	0	0
3046			44.7**	3.7	0.57	19	1	1	0	0	0
3047	T4	1.2	10.6	2.0	0.36	1	0	0	0	0	0
3048			20.7	5.5	0.55	31	3	2	0	0	0
3049			15.5	3.8	0.45	16	1	0	0	0	0
3050			24.6	5.1	0.54	24	5	0	0	0	0
3051			32.0	6.0	0.62	24	4	3	0	0	0
3052			35.3**	5.4	0.66	16	4	3	0	0	0

(Continued)

Table A1 (Continued)

	Test Course			Driver		Cargo Responses					
							No. of Occurrences				
							Peak Composite Acceleration Levels, g				
Test No.*	Identi-fication	Rough-ness, rms	Speed mph	Absorbed Power watts	Composite rms Acceleration g	>1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
3053	SR1	0.4	10.5	0.7	0.22	0	0	0	0	0	0
3055			19.8	1.0	0.30	6	1	0	0	0	0
3056			28.7	2.8	0.35	3	0	0	0	0	0
3057			37.4	2.1	0.37	2	0	0	0	0	0
3058			49.6	1.4	0.46	20	1	0	0	0	0
3059			21.8	1.8	0.31	3	0	0	0	0	0
3068	CC1A	0.5	20.2	2.6	0.43	20	0	0	0	0	0
3069			10.8	1.5	0.32	1	0	0	0	0	0
3070			27.8	2.5	0.42	4	0	0	0	0	0
3071			39.5**	2.8	0.51	15	0	0	0	0	0
3072			32.5	3.2	0.53	33	4	0	0	0	0
3073	CC2A	1.4	10.6	15.1	0.59	30	9	6	4	0	0
3074			5.8	1.7	0.33	0	0	0	0	0	0
3075			11.7**	15.2	0.60	40	9	11	1	1	0
3076			8.0	3.2	0.44	12	5	1	0	0	0
3077			8.6	5.0	0.44	20	1	1	0	0	0
3078			9.2	5.7	0.54	30	8	2	4	0	0
3079			10.2	9.1	0.57	28	8	4	3	0	0
3064	CC3A	1.8	11.9	12.5	0.61	62	8	4	1	0	0
3065			6.5	2.1	0.37	11	1	0	0	0	0
3066			12.9**	16.6	0.67	64	13	3	3	2	1
3067			8.8	7.0	0.57	24	11	2	2	0	0
					High Performance Bronco with 1340 lb Rated Payload						
2914	T1	2.0	9.5	5.8	0.52	64	7	3	1	0	0
2915			10.8	7.9	0.60	110	15	2	1	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi- fication	Test Course Rough- ness, rms	Speed mph	Driver Absorbed Power watts	Cargo Responses: Composite rms Acceleration g	No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2916	T1	2.0	13.1	10.3	0.69	136	25	7	2	1	0
2917			14.5	19.5	0.75	183	39	10	9	3	3
2895	T3	0.6	10.4	1.1	0.28	0	0	0	0	0	0
2896			19.5	1.2	0.38	12	2	0	0	0	0
2897			14.1	1.1	0.33	3	0	0	0	0	0
2898			24.4	1.4	0.46	22	3	0	0	0	0
2899			39.0**	3.7	0.52	21	7	0	0	0	0
2900			28.7	1.2	0.46	22	1	0	0	0	0
2901	T4	1.2	7.0	0.8	0.27	0	0	0	0	0	0
2902			15.3	2.6	0.42	12	2	0	0	0	0
2903			11.2	1.5	0.37	5	0	0	0	0	0
2904			20.3	3.0	0.55	24	9	1	0	0	0
2905			23.2	3.8	0.60	28	10	0	1	0	0
2906			24.6	3.8	0.61	34	6	1	0	0	0
2907			30.5**	7.6	0.68	12	6	2	1	0	0
2908	SR1	0.4	11.6	0.7	0.19	0	0	0	0	0	0
2909			20.5	1.5	0.29	1	0	0	0	0	0
2910			31.7	2.0	0.39	10	1	1	0	0	0
2911			41.3	2.5	0.49	15	2	1	0	0	0
2912			40.7	2.0	0.51	12	7	1	0	0	0
2913			52.5	1.2	0.48	10	1	0	0	0	0
2924	CC1A	0.5	22.6	2.2	0.45	11	1	0	0	0	0
2925			11.6	1.1	0.33	2	0	0	0	0	0
2926			30.0	2.5	0.53	27	3	0	0	0	0
2927			38.4**	2.9	0.65	40	8	1	0	0	0
2928			11.7	1.9	0.43	14	0	0	0	0	0

(Continued)

Table A1 (Continued)

Test No.*	Test Course Identi-fication	Test Course Rough-ness, rms	Speed mph	Driver Absorbed Power watts	Composite rms Acceleration g	Cargo Responses: No. of Occurrences Peak Composite Acceleration Levels, g >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
2929	CC2A	1.4	10.5	11.4	0.58	33	6	4	3	1	0
2930			6.8	2.4	0.39	4	3	0	0	0	0
2931			13.8**	12.6	0.64	48	9	9	1	0	0
2932			8.2	5.6	0.51	24	3	1	0	0	0
2933			16.1	18.9	0.76	77	29	4	2	1	2
2918	CC3A	1.8	12.9	11.0	0.66	52	19	5	1	1	0
2919			8.9	8.5	0.55	29	7	1	0	0	0
2920			15.0	23.4	0.87	75	26	14	8	0	0
2921			10.2	10.5	0.58	37	7	3	0	0	1
2922			14.3**	10.5	0.75	63	23	8	1	0	0
2923			6.4	1.9	0.36	3	0	0	0	0	0

Table A2

Basic Field Data from Obstacle Shock Tests

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated					
					>1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
Standard Ramcharger (800-lb Payload)	2162	4	12.4	5.1	7	1	1	0	0	0
	2163	4	7.5	8.4	4	3	1	1	0	0
	2164	4	4.0	15.7	5	6	3	1	1	0
	2165	4	3.1	20.3	11	0	1	0	0	0
	2166	6	12.2	5.1	4	3	3	1	0	0
	2167	6	8.1	7.8	4	0	0	0	0	0
	2168	6	5.7	11.0	9	7	2	3	3	0
	2169	6	4.1	15.3	1	5	5	1	4	1
	2170	8	15.7	4.0	10	6	0	3	1	1
	2171	8	24.4	2.6	10	5	2	0	2	0
Standard Blazer (800-lb Payload)	2379	4	6.1	10.3	6	5	0	0	0	0
	2380	4	4.6	13.7	4	4	0	0	0	0
	2381	4	3.9	16.1	9	2	0	0	0	0
	2382	4	2.9	21.7	3	1	4	0	0	0
	2383	6	9.4	6.7	4	1	1	0	0	0
	2384	6	6.8	9.2	4	3	1	2	0	0
	2385	6	12.3	5.1	10	0	1	1	0	0
	2386	6	16.2	3.9	1	2	0	0	0	0
	2387	8	22.5	2.8	2	2	0	0	0	0
	2388	8	15.4	4.1	6	0	1	1	1	0
Standard CJ5 (800-lb Payload)	2039	4	9.9	6.3	1	0	0	0	0	0
	2040	4	6.6	9.5	4	2	1	0	0	0
	2041	4	5.3	11.8	10	5	0	0	0	0
	2042	4	8.0	7.8	10	2	0	0	0	0
	2043	6	13.0	4.8	3	1	0	0	0	0
	2044	6	10.1	6.2	7	4	3	0	1	0
	2045	6	8.4	7.5	7	5	1	0	1	0
	2046	8	14.0	4.5	9	1	1	0	0	0
	2047	8	17.4	3.6	9	2	1	0	1	0
	2048	8	19.3	3.3	7	0	0	1	1	0

(Continued)

Table A2 (Continued)

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated >1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
Standard Scout (800-lb Payload)	2789	4	7.9	7.9	2	0	0	0	0	0
	2790	4	5.5	11.4	2	0	0	0	0	0
	2791	4	3.5	17.9	3	1	0	0	0	0
	2792	4	2.0	31.4	1	1	0	0	0	0
	2793	6	12.9	4.9	0	2	0	0	0	0
	2794	6	10.8	5.8	4	0	0	1	0	0
	2795	6	9.6	6.5	3	0	0	0	0	0
	2796	6	7.5	8.4	4	3	1	0	0	0
Standard Bronco (800-lb Payload)	2983	4	6.3	10.0	10	3	2	0	1	1
	2984	4	4.3	14.6	8	5	0	0	3	0
	2985	4	10.8	5.8	10	3	1	0	0	0
	2986	4	6.0	10.5	7	4	1	0	2	0
	2987	6	12.8	4.9	12	2	1	0	0	0
	2988	6	10.4	6.0	8	6	1	0	0	0
	2989	6	6.9	9.1	13	6	4	0	2	1
	2990	8	26.9	2.3	2	1	0	0	0	0
	2991	8	12.5	5.0	11	3	1	0	0	0
High-Performance Ramcharger (800-lb Payload)	2271	4	15.5	4.1	1	0	0	0	0	0
	2272	4	7.5	8.4	5	1	0	0	0	0
	2273	4	5.3	11.8	6	2	0	0	0	0
	2274	4	4.0	15.7	7	0	0	0	0	0
	2275	4	2.7	23.3	8	1	0	0	0	0
	2276	6	15.8	4.0	1	0	0	0	0	0
	2277	6	9.2	6.8	6	2	2	0	0	0
	2278	6	7.5	8.4	2	3	1	0	0	0
	2279	6	5.0	12.6	15	8	2	2	1	0
	2281	8	11.8	5.3	3	1	0	0	0	0

(Continued)

Table A2 (Continued)

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated					
					>1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
High-Performance Blazer (800-lb Payload)	2481	4	5.9	10.6	7	2	0	0	0	0
	2482	4	3.3	19.0	5	1	1	0	0	0
	2483	4	3.0	20.9	3	2	2	0	0	0
	2486	6	8.1	7.8	7	5	0	1	0	0
	2487	6	5.6	11.2	2	3	1	2	0	0
	2488	6	7.1	8.1	3	2	4	0	0	0
	2489	6	4.4	14.3	7	7	1	1	2	1
	2490	8	21.5	2.9	1	2	0	0	0	0
	2491	8	10.4	6.0	5	2	1	1	2	1
High-Performance CJ5 (800-lb Payload)	2683	4	8.3	7.6	2	0	0	0	0	0
	2684	4	7.3	8.6	3	0	0	0	0	0
	2686	4	5.3	11.8	3	2	2	0	0	0
	2687	6	11.9	5.3	3	0	1	0	0	0
	2688	6	13.7	4.6	7	2	0	0	0	0
	2689	6	11.7	5.4	5	0	1	0	0	0
	2690	6	8.8	7.1	6	1	0	2	0	0
High-Performance Scout (800-lb Payload)	3035	4	6.4	9.8	3	3	1	0	0	0
	3036	4	4.6	13.7	6	2	1	2	0	0
	3037	4	3.5	17.9	7	6	3	2	0	0
	3038	4	3.2	19.6	5	5	2	0	1	1
	3939	6	11.3	5 6	6	1	0	1	0	0
	3040	6	9.1	6.9	2	4	0	1	1	0
	3041	6	6.6	9.5	7	2	2	1	2	0

(Continued)

Table A2 (Continued)

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated >1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
High-Performance Bronco (800-lb Payload)	2885	4	6.7	9.4	7	1	1	1	0	0
	2886	4	5.2	12.1	11	6	0	3	0	0
	2887	4	10.6	5.9	3	1	1	0	0	0
	2888	6	13.2	4.8	4	0	0	1	0	0
	2889	6	9.3	6.8	11	3	2	0	2	0
	2890	6	7.8	8.1	9	5	1	4	0	0
	2891	8	21.9	2.9	4	1	1	1	0	1
	2892	8	11.0	5.7	8	5	1	0	0	0
M151A2 (800-lb Payload)	2627	4	12.9	4.9	0	1	0	0	0	0
	2628	4	7.0	9.0	1	1	0	0	0	0
	2629	4	5.1	12.3	2	3	0	0	0	0
	2630	4	6.6	9.5	2	1	0	0	0	0
	2631	4	9.6	6.5	2	0	0	0	0	0
	2632	6	11.6	5.4	5	0	1	0	0	0
	2633	6	8.0	7.8	7	3	0	2	0	0
	2634	6	6.6	9.5	1	2	1	0	2	0
	2635	8	16.8	3.7	5	3	1	1	0	0
	2636	8	19.3	3.3	2	1	0	0	0	0
Standard Ramcharger (Rated Payload)	2188	4	10.1	6.2	0	0	0	0	0	0
	2189	4	4.1	15.3	5	2	2	1	1	0
	2190	4	3.0	20.9	2	2	2	0	0	0
	2191	6	11.2	5.6	7	2	0	0	0	0
	2192	6	8.2	7.7	9	2	0	0	0	0
	2193	6	6.0	10.5	1	7	0	2	0	0
	2194	8	16.1	3.9	12	2	0	3	2	0

(Continued)

Table A2 (Continued)

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated >1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
Standard Blazer (Rated Payload)	2430	4	6.7	9.4	3	2	0	0	0	0
	2431	4	4.9	12.8	4	2	2	0	0	0
	2432	4	3.4	18.5	6	1	1	0	0	0
	2433	4	3.0	20.9	4	3	0	0	0	0
	2434	6	12.2	5.1	4	1	1	0	0	0
	2435	6	9.4	6.7	2	3	0	0	0	0
	2436	6	7.1	8.8	3	2	1	0	0	0
	2438	8	14.4	4.4	5	3	1	0	1	0
	2439	8	25.8	2.4	1	0	0	0	0	0
Standard CJ5 (Rated Payload)	2109	4	8.5	7.4	4	0	0	0	0	0
	2110	4	7.6	8.3	4	0	0	0	0	0
	2111	4	5.6	11.2	5	1	0	0	0	0
	2112	4	5.0	12.6	8	1	1	0	0	0
	2113	4	12.1	5.2	2	0	0	0	0	0
	2114	6	15.8	4.0	3	0	0	0	0	0
	2115	6	12.8	4.9	2	1	1	1	0	0
	2116	6	7.9	7.9	10	3	2	1	3	1
Standard Scout (Rated Payload)	2836	4	6.5	9.7	1	3	0	0	0	0
	2837	4	4.5	14.0	6	2	0	0	0	0
	2838	4	3.5	17.9	1	3	1	1	0	0
	2938	4	3.0	20.9	12	2	4	0	1	0
	2840	6	12.0	5.2	7	2	3	1	0	1
	2841	6	8.0	7.8	6	3	1	0	0	0
	2842	6	6.6	9.5	8	4	2	2	1	0

(Continued)

Table A2 (Continued)

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated					
					>1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
High-Performance Ramcharger (Rated Payload)	2282	4	14.0	4.5	1	0	0	0	0	0
	2283	4	7.2	8.7	1	0	0	0	0	0
	2284	4	5.5	11.4	1	3	0	0	0	0
	2285	4	44.0	15.7	7	1	1	0	0	0
	2286	6	12.7	4.9	3	1	0	0	0	0
	2287	6	8.9	7.1	6	0	0	0	0	0
	2288	6	7.5	8.4	9	2	0	2	0	0
	2289	6	5.2	12.1	4	4	2	0	1	0
	2290	8	12.6	5.0	5	3	1	0	0	0
High-Performance Blazer (Rated Payload)	2541	4	4.8	13.1	8	2	0	0	0	0
	2542	4	3.4	18.5	9	1	0	0	0	0
	2543	4	1.7	36.9	10	0	1	0	0	0
	2544	6	7.4	8.5	3	8	0	1	0	0
	2545	6	6.1	10.3	8	2	2	2	0	0
	2546	6	5.1	12.3	8	2	2	0	1	0
	2547	8	14.3	4.4	4	1	1	0	1	0
	2548	8	11.5	5.5	7	6	0	3	1	1
High-Performance CJ5 (Rated Payload)	2735	4	6.3	10.0	4	1	1	0	0	0
	2736	4	4.9	12.8	4	4	1	0	1	0
	2737	4	3.7	17.0	3	4	3	1	1	1
	2738	4	2.5	25.1	2	1	0	0	0	0
	2739	6	10.6	5.9	12	4	0	1	0	0
	2740	6	7.7	8.2	5	3	1	1	0	0
	2741	6	5.2	12.1	9	2	2	0	0	0
	2742	8	31.8	2.0	2	1	0	0	0	0

(Continued)

Table A2 (Concluded)

Vehicle	Test No.	Obstacle Height in.	Time sec	Speed mph	No. of Vertical Acceleration Peaks Greater than g Range Indicated					
					>1 - 1.5	>1.5 - 2	>2 - 2.5	>2.5 - 3	>3 - 4	>4
High-Performance Scout (Rated Payload)	3080	4	6.7	9.4	15	1	0	0	0	0
	3081	4	4.7	13.4	9	5	2	1	0	0
	3082	4	3.8	16.5	16	5	7	1	0	0
	3083	4	2.9	21.7	5	5	1	0	0	1
	3084	6	12.6	5.0	5	5	6	1	0	1
	3086	6	19.1	3.3	0	0	0	0	0	0
High-Performance Bronco (Rated Payload)	2934	4	6.9	9.1	4	1	2	0	0	0
	2935	4	11.3	5.6	5	1	0	0	0	0
	2936	4	4.6	13.7	6	2	1	0	0	0
	2937	6	10.0	6.3	6	5	1	0	0	0
	2938	6	8.0	7.8	5	6	1	1	2	0
	2940	6	9.4	6.7	7	6	1	0	0	0
	2941	6	13.5	4.7	7	6	0	0	0	0
	2942	8	16.0	3.9	7	2	0	0	0	0

APPENDIX B: DETAILED SPEED AND DYNAMICS DATA FOR TRAVERSE COURSES

1. The traverse speed data for the secondary road and trail units are given in detail as shown below:

Table No.	Vehicle	Payload, lb	Units
B1	Standard commercial and M151A2	800	1-13
B2	Standard commercial	800	14-26
B3	Standard commercial	800	27-39
B4	Standard commercial	800	40-52
B5	High-performance commercial	800	1-13
B6	High-performance commercial	800	14-26
B7	High-performance commercial	800	27-39
B8	High-performance commercial	800	40-52
B9	Standard commercial	Rated	1-13
B10	Standard commercial	Rated	14-26
B11	Standard commercial	Rated	27-39
B12	Standard commercial	Rated	40-52
B13	High-performance commercial	Rated	1-13
B14	High-performance commercial	Rated	14-26
B15	High-performance commercial	Rated	27-39
B16	High-performance commercial	Rated	40-52

2. The dynamics data for the traverse are given in detail as shown below:

Table No.	Vehicles	Payload, lb
B17	Standard Ramcharger	800
B18	Standard Blazer	800
B19	Standard CJ5	800
B20	Standard Scout	800
B21	Standard Bronco	800
B22	High-performance Ramcharger	800
B23	High-performance Blazer	800
B24	High-performance CJ5	800
B25	High-performance Scout	800

Table No.	Vehicle	Payload, lb
B26	High-performance Bronco	800
B27	Military M151A2	800
B28	Standard Ramcharger	Rated
B29	Standard Blazer	Rated
B30	Standard CJ5	Rated
B31	Standard Scout	Rated
B32	High-performance Ramcharger	Rated
B33	High-performance Blazer	Rated
B34	High-performance CJ5	Rated
B35	High-performance Scout	Rated
B36	High-performance Bronco	Rated

Table B1

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles and M151A2 with 800-lb Payload, Units 1-13, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph 1	2	3	4	5	6	7	8	9	10	11	12	13
Ramcharger	5370	Leigh	40.6	34.1	41.3	41.1	41.3	40.3	40.5	41.6	21.5	36.2	42.4	12.7	22.0
		Campbell	40.6	39.4	41.9	41.6	41.0	41.2	39.9	38.6	19.1	35.9	41.2	17.3	29.0
		White	38.8	36.5	40.7	41.1	41.0	40.6	40.8	37.1	19.4	32.2	39.4	12.8	21.6
		Lewis**	40.1	41.1	40.7	41.6	40.0	42.4	45.0	41.1	25.7	37.9	40.9	22.0	35.2
Blazer	5520	Baker	41.3	41.1	43.9	45.9	43.9	43.0	45.0	42.1	23.2	36.6	40.6	12.4	30.2
		Campbell	41.3	40.2	41.3	41.6	43.2	42.4	40.9	37.1	17.1	35.0	41.8	20.7	31.1
		Shaw	39.7	39.4	40.7	40.6	41.4	42.4	40.2	39.4	19.8	40.2	38.9	16.8	26.4
		Lewis**	41.5	40.2	41.9	41.6	42.1	40.5	41.2	48.5	25.7	38.3	41.8	19.4	36.2
CJ5	3680	Ellis	39.9	40.2	42.5	42.1	41.0	41.8	43.0	41.1	26.7	35.8	41.8	18.2	25.7
		Leigh	40.1	40.2	40.7	40.2	40.4	39.5	37.2	40.3	17.6	35.8	39.4	14.7	25.3
		White	38.4	37.9	44.5	40.2	40.4	38.9	37.5	38.6	17.5	34.3	37.8	13.3	22.9
		Lewis**	40.1	40.2	35.2	39.7	41.7	41.2	40.9	40.7	23.2	40.2	37.8	20.7	27.7
Scout	4860	Nixe	40.0	39.4	42.5	41.6	42.4	42.4	42.3	41.6	21.4	32.5	32.8	16.6	29.2
		Leigh	40.7	38.3	40.7	41.1	41.0	44.0	38.6	39.4	19.4	32.5	39.4	14.9	30.2
		Ellis	42.1	39.4	43.9	44.8	45.0	44.0	41.2	37.9	15.4	34.3	39.7	14.5	33.0
		Lewis**	44.1	44.7	44.5	45.3	46.4	45.0	45.8	44.5	28.1	40.2	46.0	15.5	32.2
Bronco	4545	Allison	41.7	40.2	45.9	43.7	42.8	42.4	42.6	39.8	24.3	37.4	43.1	20.2	36.2
		Campbell	41.9	41.5	43.2	45.6	44.7	41.8	43.4	39.4	19.9	41.3	39.4	21.4	36.5
		White	39.8	39.1	41.9	44.2	40.0	42.1	39.2	36.4	21.4	39.3	35.4	18.7	29.7
		Lewis**	43.6	43.7	45.3	40.6	39.7	46.5	40.2	46.2	30.5	47.3	41.8	24.2	31.7
M151A2	3130	Leigh	39.5	34.7	37.5	38.0	37.4	36.0	36.4	34.4	17.2	33.5	35.8	14.4	26.0
		White	41.9	38.0	40.7	39.7	38.5	37.9	38.0	37.1	23.7	34.3	35.8	14.2	26.8
		Allison	38.3	38.7	43.2	38.0	37.9	36.9	40.2	37.1	23.0	35.0	39.4	17.5	29.2
		Lewis**	41.3	38.7	40.7	42.6	41.7	42.4	46.2	42.5	23.2	36.2	48.4	23.8	31.7

* All drivers military except Lewis.

** Instrumented test.

Table B2

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles and M151A2 with 800-lb Payload, Units 14-26, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph 14	15	16	17	18	19	20	21	22	23	24	25	26
Ramcharger	5370	Leigh	17.8	13.9	15.8	19.0	14.4	20.9	17.0	10.3	11.0	15.8	14.1	13.9	12.9
		Campbell	15.4	15.4	21.2	23.1	16.3	27.1	22.2	10.6	11.0	16.0	13.1	15.4	15.0
		White	15.1	11.7	15.5	15.1	13.8	20.3	17.2	10.2	11.3	14.2	12.4	14.9	9.9
		Lewis**	29.3	17.4	24.4	30.1	23.4	39.0	29.3	13.5	16.9	22.7	17.6	26.4	21.7
Blazer	5520	Baker	26.4	13.8	18.0	23.4	16.3	26.8	23.6	12.9	14.5	18.8	15.4	18.5	15.8
		Campbell	25.9	13.5	17.5	21.0	16.4	27.3	21.2	9.0	12.2	16.2	13.6	19.6	15.1
		Shaw	24.9	15.6	21.5	26.3	19.8	27.4	24.8	15.2	15.1	19.4	18.5	20.4	18.1
		Lewis**	28.7	18.2	26.8	34.5	25.9	43.4	37.5	14.9	19.6	25.9	22.1	29.8	24.7
CJ5	3680	Ellis	21.6	13.0	18.1	22.1	19.3	27.8	26.1	11.7	16.7	21.7	17.4	20.2	19.4
		Leigh	20.6	10.9	18.5	22.4	18.4	24.5	19.5	12.3	13.3	11.1	15.7	17.5	17.9
		White	21.3	12.9	19.0	22.4	17.7	25.0	21.8	12.1	14.8	17.4	14.3	18.8	16.0
		Lewis**	25.9	16.1	23.8	28.6	19.6	32.2	27.1	11.5	16.4	20.0	16.0	19.0	18.2
Scout	4860	Nixe	24.0	16.4	23.8	26.3	18.6	28.6	20.9	13.5	24.2	20.2	18.3	20.9	17.3
		Leigh	27.8	15.3	24.7	28.6	20.3	31.5	23.2	15.4	17.2	22.1	19.6	22.7	21.0
		Ellis	26.9	13.8	18.6	23.4	18.4	27.1	22.2	11.1	13.1	19.6	17.1	20.4	18.6
		Lewis**	30.3	22.6	29.8	32.9	26.7	35.6	34.8	17.9	21.7	25.2	25.5	28.8	25.3
Bronco	4545	Allison	31.1	16.0	25.7	28.1	21.4	31.1	25.9	16.4	16.1	22.0	19.2	22.0	20.4
		Campbell	30.0	14.8	21.8	24.8	19.4	31.9	27.1	13.4	16.0	21.7	15.5	22.0	19.5
		White	24.0	15.2	22.5	25.5	19.6	29.6	26.6	14.3	17.1	20.8	10.8	12.1	13.8
		Lewis**	30.3	20.6	27.6	30.5	25.1	40.8	26.6	13.4	17.7	26.7	19.6	25.4	23.7
M151A2	3130	Leigh	20.3	12.8	20.2	23.6	20.0	27.1	23.8	13.4	15.2	16.7	16.3	19.1	18.1
		White	23.6	14.9	20.7	23.9	20.0	29.7	25.7	12.8	17.0	19.5	13.1	19.9	17.1
		Allison	25.9	17.0	22.7	27.0	22.8	29.4	26.1	13.6	16.0	21.2	20.2	22.5	20.0
		Lewis**	31.4	19.9	28.1	31.2	26.5	40.0	31.8	15.7	17.8	24.3	23.4	25.9	23.8

* All drivers military except Lewis.

** Instrumented test.

Table B3

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles and M151A2 with 800-lb Payload, Units 27-39, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph												
			27	28	29	30	31	32	33	34	35	36	37	38	39
Ramcharger	5370	Leigh	13.9	15.9	13.9	14.6	11.8	14.9	11.5	12.9	20.1	15.5	17.8	13.6	14.2
		Campbell	13.8	17.4	12.4	12.2	11.0	12.7	11.3	12.8	22.9	14.3	15.4	16.7	16.1
		White	13.0	15.9	12.6	13.2	12.1	14.9	11.1	13.3	18.9	13.7	16.2	16.0	12.0
		Lewis**	19.5	25.8	21.3	23.0	16.3	22.9	17.1	16.3	29.0	21.6	29.5	25.0	23.2
Blazer	5520	Baker	16.6	20.1	16.3	17.8	13.6	17.8	15.9	15.2	21.8	15.9	21.9	21.4	20.9
		Campbell	15.1	18.7	14.7	13.9	13.5	14.9	12.3	14.5	22.4	15.8	24.7	20.5	15.2
		Shaw	18.8	21.5	20.6	19.4	17.9	19.9	17.1	16.0	22.9	19.1	20.6	20.5	20.9
		Lewis**	25.5	27.9	21.1	25.7	17.3	23.5	19.8	20.1	31.1	24.5	27.7	26.2	24.6
CJ5	3680	Ellis	17.4	21.6	17.3	17.0	17.5	18.6	14.6	14.5	24.7	21.2	23.0	21.6	16.6
		Leigh	17.6	20.2	17.8	18.0	17.1	19.3	15.8	14.3	23.6	18.6	22.2	19.2	18.0
		White	16.5	20.6	16.8	15.8	14.5	17.2	14.4	14.5	21.1	17.7	18.3	18.4	14.9
		Lewis**	19.6	22.8	16.2	18.8	16.3	19.6	16.8	15.9	29.0	21.9	24.5	26.2	22.4
Scout	4860	Nixe	16.9	23.0	18.4	18.7	14.3	19.9	16.5	15.2	22.0	19.9	23.3	21.4	16.8
		Leigh	21.5	24.6	19.0	20.2	17.4	22.0	20.0	16.6	22.2	19.2	26.2	24.9	21.5
		Ellis	14.0	21.8	15.5	18.7	13.0	17.4	15.1	14.2	27.2	20.3	19.7	21.5	15.9
		Lewis**	25.7	31.6	24.3	25.4	22.6	27.3	21.2	20.8	35.1	28.1	30.1	29.1	23.2
Bronco	4545	Allison	19.9	25.1	16.1	19.0	15.0	19.5	16.6	17.9	26.5	23.7	26.2	26.5	23.7
		Campbell	18.2	23.1	16.9	20.2	15.0	19.6	15.9	15.6	25.6	18.3	23.2	20.6	17.7
		White	18.7	23.1	17.7	16.7	13.2	20.8	15.3	17.0	24.2	17.7	20.7	20.6	21.3
		Lewis**	22.6	28.6	19.6	22.6	17.4	[illegible]	18.2	19.4	25.9	25.2	29.4	27.9	26.1
M151A2	3130	Leigh	17.3	20.4	17.1	17.8	16.9	18.0	16.1	13.4	23.1	16.2	21.2	18.7	20.1
		White	17.8	21.8	18.8	18.5	18.2	21.0	17.0	18.4	21.8	18.4	20.2	21.7	16.7
		Allison	19.0	23.2	17.3	20.4	16.6	21.5	18.5	15.1	25.3	22.6	20.0	21.6	19.3
		Lewis**	22.7	29.8	20.4	22.2	17.7	27.0	20.1	20.8	29.4	25.3	26.9	27.1	23.2

* All drivers military except Lewis.

** Instrumented test.

Table B4

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles and M151A2 with 800-lb Payload, Units 40-52, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph 40	41	42	43	44	45	46	47	48	49	50	51	52
Ramcharger	5370	Leigh	18.6	34.3	31.0	25.9	21.0	8.6	28.0	19.5	17.7	24.4	13.0	22.7	18.6
		Campbell	20.5	37.3	33.5	28.5	28.5	19.3	30.4	22.1	21.3	24.0	12.8	25.4	19.8
		White	18.1	30.8	28.7	31.7	21.6	9.5	24.0	19.2	16.9	20.5	10.5	22.6	18.2
		Lewis**	22.0	39.7	47.9	43.2	37.5	12.3	38.1	23.4	33.8	38.8	18.8	33.0	24.0
Blazer	5520	Baker	16.2	38.2	41.9	34.8	27.9	11.2	31.8	24.2	22.5	31.5	17.3	29.9	21.2
		Campbell	18.3	39.9	42.8	41.9	33.8	10.7	33.8	25.4	25.4	29.4	10.6	31.7	15.0
		Shaw	19.7	37.6	40.6	36.6	30.1	10.1	32.5	23.1	21.8	29.4	11.5	28.6	21.9
		Lewis**	22.3	43.1	44.7	45.3	41.5	13.7	40.8	30.5	30.7	40.9	18.8	32.8	25.6
CJ5	3680	Ellis	18.3	36.7	38.7	30.0	32.0	11.7	35.7	24.2	23.9	27.5	13.8	29.1	18.0
		Leigh	19.5	34.3	40.2	34.8	25.4	11.9	31.1	22.8	23.3	27.5	16.0	27.2	23.2
		White	19.5	32.0	40.2	30.7	25.8	10.5	29.8	21.5	19.0	24.2	13.4	26.2	19.1
		Lewis**	21.3	39.0	40.2	37.5	31.0	15.0	39.7	25.8	25.5	30.2	17.0	42.1	23.2
Scout	4860	Nixe	15.8	34.7	36.6	31.7	28.7	11.0	27.2	22.7	24.3	27.0	14.9	27.9	21.1
		Leigh	17.7	38.5	39.8	37.5	35.3	11.9	34.9	23.8	24.3	33.7	15.8	32.1	25.6
		Ellis	15.0	36.1	41.9	32.8	28.5	10.7	34.9	24.1	23.3	29.4	12.7	28.4	17.5
		Lewis**	15.8	41.2	48.5	41.9	42.7	13.1	38.1	30.5	30.0	40.9	16.0	34.0	25.6
Bronco	4545	Allison	20.5	39.9	41.1	34.8	35.3	12.3	36.6	26.5	26.5	32.9	15.9	33.0	26.6
		Campbell	31.2	41.5	41.9	35.6	33.6	11.7	31.8	28.8	27.0	30.3	14.0	31.7	24.4
		White	20.5	34.3	42.4	33.9	28.3	11.7	30.4	23.9	23.1	29.1	15.8	28.8	24.2
		Lewis**	29.4	39.7	42.4	38.5	41.8	13.1	46.1	32.0	28.1	38.8	18.6	37.4	29.4
M151A2	3130	Leigh	23.6	34.3	37.9	29.7	25.8	11.2	28.0	23.1	22.1	30.0	15.3	28.1	22.2
		White	21.6	33.9	38.7	33.9	27.4	11.7	31.4	23.4	22.1	28.3	16.5	28.2	23.2
		Allison	22.0	36.1	38.0	34.8	29.5	11.0	34.9	26.3	24.1	28.3	14.5	29.7	21.6
		Lewis**	22.3	41.9	42.4	36.6	41.8	12.3	38.1	27.2	27.0	35.6	18.4	32.9	25.0

* All drivers military except Lewis.
** Instrumented test.

Table B5

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with 800-lb Payload, Units 1-13, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph												
			1	2	3	4	5	6	7	8	9	10	11	12	13
Ramcharger	5720	Campbell	41.1	39.4	40.7	42.2	42.4	43.0	59.6	38.6	26.4	36.6	41.5	20.2	33.6
		Leigh	39.9	37.3	40.7	39.4	38.6	40.9	38.0	41.6	19.6	36.6	37.3	18.3	31.4
		Allison	40.8	42.8	46.7	43.4	42.9	41.2	37.7	41.1	26.7	38.3	41.8	19.4	31.4
		Lewis**	47.0	44.2	50.9	47.1	47.2	46.9	46.6	53.3	27.4	44.1	50.2	24.3	38.0
Blazer	5880	Shaw	39.8	40.2	44.5	42.6	44.7	43.0	41.2	38.6	18.6	36.6	40.0	17.1	25.7
		Leigh	41.6	41.1	44.5	43.7	43.9	44.3	43.8	42.1	20.3	39.3	42.4	18.0	30.1
		Baker	41.7	42.8	41.9	43.7	50.1	48.8	48.5	45.1	22.0	40.2	46.0	20.2	33.9
		Lewis**	47.2	44.2	49.2	49.5	49.1	50.1	46.6	51.2	26.0	39.7	50.2	22.5	35.8
CJ5	4005	Campbell	39.3	40.2	40.7	40.4	44.7	40.6	39.6	39.4	21.8	42.9	37.3	20.2	34.5
		White	37.3	39.4	37.5	39.7	41.4	46.5	33.9	30.8	20.5	31.6	42.4	20.0	27.3
		Allison	38.7	44.7	41.9	40.9	36.3	40.9	40.2	39.0	22.2	40.2	38.9	18.1	31.7
		Lewis**	41.3	42.8	46.0	43.1	44.7	43.0	42.6	43.0	31.4	44.7	46.0	23.0	42.2
Scout	5150	Allison	39.1	40.2	41.9	40.2	39.7	40.0	37.5	39.4	20.1	36.6	42.1	13.0	31.7
		Nixe	41.1	40.2	43.2	41.1	41.7	40.0	41.2	39.4	16.9	36.6	37.8	14.9	27.7
		Campbell	40.1	40.2	39.6	40.0	40.7	40.0	38.6	36.0	17.5	39.3	40.6	17.5	35.8
		Lewis**	41.9	42.8	42.5	45.3	45.1	42.7	49.4	48.5	26.4	42.4	46.8	17.3	39.6
Bronco	4590	Baker	46.1	42.4	43.9	43.4	40.7	41.6	43.8	40.7	23.5	40.2	45.2	20.7	34.2
		White	41.2	38.3	39.6	41.1	38.5	38.4	39.6	36.4	18.1	39.3	38.9	20.7	29.2
		Allison	40.3	38.7	40.7	42.1	35.8	45.7	38.0	37.9	23.2	37.9	39.4	19.9	33.3
		Lewis**	40.7	40.2	40.7	40.4	41.4	40.6	41.2	42.1	34.4	44.1	41.2	25.8	39.6

* All drivers military except Lewis.

** Instrumented test.

Table B6

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with 800-lb Payload, Units 14-26, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph 14	15	16	17	18	19	20	21	22	23	24	25	26
Ramcharger	5720	Campbell	23.2	13.4	18.5	21.6	15.7	27.9	25.2	9.2	12.6	17.0	13.0	16.7	15.6
		Leigh	23.8	14.2	22.5	27.3	19.0	30.0	24.2	13.3	15.3	20.6	16.3	18.0	17.6
		Allison	28.0	15.5	21.6	27.9	20.3	33.2	27.6	13.3	11.7	21.5	18.0	21.4	18.2
		Lewis**	28.7	18.1	32.6	32.4	28.8	40.2	32.5	14.1	18.6	27.8	17.4	26.4	26.1
Blazer	5880	Shaw	21.6	13.8	18.6	22.3	18.8	27.2	20.9	12.6	14.0	18.0	15.7	17.5	15.3
		Leigh	25.4	13.6	21.0	25.2	20.0	28.1	22.5	11.8	13.8	19.8	14.9	19.5	19.1
		Baker	28.1	14.9	21.8	27.1	20.6	30.0	25.7	12.5	16.3	21.7	18.0	21.6	18.9
		Lewis**	29.3	17.2	27.9	31.4	26.5	40.8	33.2	14.0	18.7	27.5	24.0	28.5	25.0
CJ5	4005	Campbell	30.0	16.2	22.3	26.6	20.9	30.9	25.7	12.5	14.9	19.9	17.8	22.0	19.9
		White	23.2	16.2	21.1	24.2	19.2	27.6	22.7	13.5	15.3	17.5	16.5	19.8	18.1
		Allison	26.9	15.9	22.8	25.8	21.7	33.4	27.6	12.8	15.5	20.2	20.2	21.6	19.1
		Lewis**	28.1	18.5	28.1	30.7	22.7	33.6	29.9	14.3	17.8	23.5	19.6	24.7	22.7
Scout	5150	Allison	27.5	15.9	24.7	26.0	18.7	27.6	19.0	19.0	16.3	18.8	18.1	18.3	18.1
		Nixe	23.6	14.9	22.9	26.6	21.9	37.3	25.9	11.5	17.0	23.1	18.9	23.6	20.8
		Campbell	28.1	15.5	23.2	27.0	23.0	33.6	26.6	14.5	17.4	23.6	20.8	25.7	22.5
		Lewis**	32.2	20.1	29.7	32.4	26.3	42.2	30.5	15.4	19.8	28.4	24.9	29.8	25.9
Bronco	4590	Baker	29.0	18.2	23.7	28.1	23.8	32.5	31.8	15.4	16.2	21.5	18.2	22.5	19.5
		White	24.0	15.6	22.5	24.8	18.8	29.4	22.9	12.9	16.2	20.0	17.1	20.7	17.5
		Allison	29.3	18.0	25.6	26.0	22.9	32.5	26.6	15.1	17.4	25.5	20.0	23.6	19.1
		Lewis**	30.7	20.8	30.4	31.9	26.0	39.7	32.2	16.1	20.0	28.4	25.7	30.9	23.8

* All drivers military except Lewis.

** Instrumented test.

Table B7

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with 800-lb Payload, Units 27-39, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph												
			27	28	29	30	31	32	33	34	35	36	37	38	39
Ramcharger	5720	Campbell	15.2	19.5	13.7	15.8	12.8	15.6	12.3	13.6	25.9	14.8	21.2	20.9	18.8
		Leigh	18.3	21.0	17.5	18.8	14.5	17.2	20.1	15.3	24.2	19.8	23.5	21.2	21.3
		Allison	19.0	23.4	16.9	20.0	14.9	17.7	16.1	13.5	25.9	19.2	25.7	26.0	26.1
		Lewis**	22.6	29.4	23.3	23.4	16.6	25.8	19.8	18.9	33.0	25.3	30.8	29.2	24.8
Blazer	5880	Shaw	16.5	19.5	17.3	17.2	14.3	16.7	13.9	13.2	22.7	16.9	20.3	18.9	13.5
		Leigh	17.2	20.2	15.6	18.3	14.4	16.8	15.1	15.1	24.2	19.0	23.5	22.8	23.7
		Baker	18.9	24.3	19.9	19.6	16.7	20.8	17.4	17.0	24.7	19.2	27.1	22.3	21.5
		Lewis**	22.2	28.8	22.3	23.3	19.7	24.0	19.8	20.1	32.0	25.8	31.6	28.4	26.8
CJ5	4005	Campbell	17.1	23.1	16.8	17.8	15.9	19.3	14.6	15.8	26.5	19.7	21.8	19.5	19.3
		White	16.7	23.4	16.2	18.0	16.0	18.8	15.0	16.9	23.6	17.2	21.0	19.5	17.2
		Allison	17.8	21.9	16.3	17.3	15.6	19.3	14.9	17.7	26.2	20.1	23.7	22.1	20.7
		Lewis**	22.8	27.9	20.4	23.8	18.5	22.3	19.6	19.7	30.2	23.4	27.7	24.4	23.4
Scout	5150	Allison	17.2	20.1	17.0	19.8	16.3	23.5	14.0	16.4	25.9	21.4	25.8	23.9	20.7
		Nixe	19.3	25.3	18.8	19.8	16.7	22.3	16.9	15.7	23.6	22.6	23.9	23.7	19.0
		Campbell	22.[illegible]	30.8	19.6	19.6	18.3	22.7	18.4	17.9	27.2	21.2	26.2	24.3	21.1
		Lewis**	24.0	33.0	21.0	22.2	18.8	26.5	20.3	22.7	32.0	25.1	31.4	29.5	26.1
Bronco	4590	BBaker	18.7	23.8	16.5	20.8	16.5	18.0	15.2	16.0	25.3	17.3	22.6	22.8	22.0
		White	18.3	23.7	17.4	18.2	15.2	18.2	15.3	17.2	25.6	18.6	21.8	22.2	19.7
		Allison	21.2	25.0	16.2	18.0	17.9	22.5	17.1	21.7	25.6	22.9	27.4	23.4	26.1
		Lewis**	23.0	30.4	22.6	25.7	21.4	27.0	19.5	22.3	29.8	26.3	30.8	28.1	25.8

* All drivers military except Lewis.

** Instrumented test.

Table B8

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles

with 800-lb Payload, Units 40-52, Traverse Test Course, Fort Hood, Texas

Vehicle	Gross Weight	Driver*	Unit Speed, mph 40	41	42	43	44	45	46	47	48	49	50	51	52
Ramcharger	5720	Campbell	23.6	38.5	39.4	46.0	34.9	11.0	32.5	24.4	24.6	27.3	12.6	28.5	20.6
		Leigh	22.9	34.3	49.1	34.3	31.0	10.1	33.2	24.1	24.6	31.5	15.5	34.0	20.5
		Allison	22.4	38.0	38.0	40.2	35.1	11.4	30.4	23.3	24.5	33.2	16.7	32.5	17.7
		Lewis**	23.4	42.5	46.8	43.2	41.5	12.6	44.0	30.5	29.0	43.3	19.3	35.9	25.9
Blazer	5880	Shaw	19.7	35.7	37.3	33.1	25.6	9.5	29.8	22.1	22.5	24.2	14.3	27.8	19.1
		Leigh	22.9	40.5	39.4	38.0	30.1	11.4	36.6	24.8	25.5	31.2	17.3	30.7	22.2
		Baker	22.6	40.3	45.7	37.5	32.7	11.8	34.8	28.8	24.6	34.4	19.1	32.3	23.2
		Lewis**	22.9	41.6	47.9	44.5	43.9	12.1	40.8	29.6	30.3	42.1	18.8	33.2	24.4
CJ5	4005	Campbell	21.6	35.3	40.2	38.0	32.0	12.3	29.2	26.1	26.5	31.2	17.8	29.4	20.9
		White	19.7	31.8	37.6	36.1	26.7	10.3	30.7	24.4	21.8	27.5	16.2	26.2	22.9
		Allison	20.8	34.2	39.4	30.0	30.0	12.6	35.7	25.6	24.6	32.6	17.1	30.7	22.0
		Lewis**	24.0	34.3	42.8	38.0	39.9	10.1	36.6	29.2	27.0	32.9	19.4	35.9	26.1
Scout	5150	Allison	16.4	36.4	38.0	37.0	33.4	10.9	34.4	24.1	22.5	31.9	15.5	29.4	23.4
		Nixe	14.8	37.0	40.2	33.1	31.0	10.8	33.2	27.6	25.0	31.5	16.5	32.4	22.4
		Campbell	20.0	42.9	39.4	39.6	34.9	12.9	34.8	28.0	27.0	35.2	16.0	35.3	26.5
		Lewis**	21.3	41.1	41.5	30.7	44.5	13.6	43.3	29.2	30.7	42.1	18.4	37.1	27.5
Bronco	4590	Baker	24.3	37.8	41.5	36.1	30.1	11.8	32.5	25.6	23.5	31.2	14.1	31.8	23.4
		White	20.4	34.6	36.6	32.4	30.7	11.2	31.1	24.8	22.3	29.7	17.4	29.0	24.4
		Allison	21.9	37.0	38.7	37.5	33.4	12.2	33.2	24.8	25.5	34.4	18.1	32.4	25.9
		Lewis**	27.1	39.0	40.2	40.7	42.1	14.2	39.7	27.0	29.7	40.9	19.3	35.3	27.0

* All drivers military except Lewis.

** Instrumented test.

Table B9

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles with Rated Payload, Units 1-13, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 1	2	3	4	5	6	7	8	9	10	11	12	13
Ramcharger	1885	6515	Leigh	40.6	34.1	41.3	41.1	41.4	40.3	40.5	41.6	21.6	36.2	42.4	14.6	25.0
			Campbell	40.7	39.4	41.9	41.6	41.0	41.2	39.9	38.6	19.1	35.7	41.2	18.6	28.8
			White	38.8	36.5	40.7	41.1	41.0	40.6	40.8	37.1	19.4	32.2	39.4	14.3	22.6
			Lewis**	41.3	41.1	40.7	42.6	42.4	40.0	41.9	39.4	25.4	35.8	44.5	21.7	34.5
Blazer	1660	6400	Shaw	37.3	38.7	41.9	40.2	40.4	39.5	38.0	39.8	17.2	32.2	39.4	15.8	24.8
			Campbell	40.8	40.2	43.2	40.6	41.0	40.0	41.6	37.1	21.1	37.4	42.4	20.2	32.5
			Baker	42.8	38.7	42.5	46.5	47.2	44.3	43.4	40.3	20.9	35.0	39.1	18.2	30.1
			Lewis**	41.0	40.2	43.2	40.6	41.0	40.6	40.9	47.3	26.0	37.4	41.5	19.1	34.5
CJ5	1300	4090	White	39.1	38.0	39.6	38.9	39.1	38.4	37.5	37.4	16.2	32.8	36.3	13.3	25.3
			Leigh	39.2	36.6	39.6	38.0	37.9	36.2	36.9	36.4	18.7	37.9	34.9	16.1	27.5
			Ellis	39.8	41.1	41.9	42.6	38.5	36.9	38.6	40.3	20.9	38.3	41.8	14.3	27.1
			Lewis**	41.6	41.9	47.5	42.6	43.9	42.4	43.0	41.1	23.2	40.2	44.3	18.9	36.5
Scout	1919	5950	Nixe	41.2	37.3	43.9	42.1	42.8	40.6	41.6	41.1	16.7	28.2	33.6	12.5	26.0
			Leigh	40.3	38.7	40.7	40.6	40.0	39.5	37.5	37.9	18.1	32.8	38.9	13.0	29.0
			Ellis	43.2	40.2	42.5	44.8	44.3	43.7	44.1	38.6	10.5	31.0	38.3	9.1	27.1
			Lewis**	42.8	42.4	46.0	43.9	43.2	43.7	43.4	41.1	26.7	35.8	43.8	14.4	31.1
Bronco	885†															

* All drivers military except Lewis.

** Instrumented test.

† Small difference in rated payload and the 800 lb payload did not warrant retesting.

Table B10

Secondary Road, or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles with Rated Payload, Units 14-26, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 14	15	16	17	18	19	20	21	22	23	24	25	26
Ramcharger	1885	6515	Leigh	22.4	13.1	19.4	23.4	15.6	24.7	18.3	11.3	11.0	16.1	14.8	16.2	15.0
			Campbell	24.4	13.1	20.4	23.4	16.5	25.9	24.8	10.6	12.5	18.0	14.2	17.3	16.7
			White	20.1	11.4	16.3	19.5	15.6	21.8	19.4	10.5	11.1	14.3	12.7	14.6	13.0
			Lewis**	28.4	16.0	26.3	30.0	24.8	38.7	34.0	14.7	18.2	24.3	20.1	24.9	21.5
Blazer	1660	6400	Shaw	21.6	13.9	17.4	21.7	18.7	26.1	19.6	13.4	14.5	18.9	16.7	20.2	17.1
			Campbell	26.4	13.8	17.5	21.8	15.6	27.8	24.0	11.7	13.5	17.0	14.7	19.5	16.0
			Baker	24.4	15.3	19.3	24.2	17.1	26.6	24.0	12.3	13.5	18.0	16.3	19.6	16.2
			Lewis**	29.3	17.4	25.0	31.2	24.6	38.7	34.8	14.1	19.4	28.1	22.1	28.8	24.1
CJ5	1300	4090	White	20.6	13.5	18.8	21.4	17.7	26.3	22.2	11.8	14.2	17.5	15.1	18.3	16.0
			Leigh	22.0	12.4	20.5	23.1	20.1	27.3	23.8	13.5	14.6	19.7	15.9	18.8	17.6
			Ellis	25.4	12.4	19.8	24.0	20.0	28.2	24.4	11.4	13.7	18.5	14.9	19.1	17.7
			Lewis**	25.4	15.9	24.0	26.6	21.4	34.1	24.0	13.3	15.3	22.5	17.4	20.9	20.8
Scout	1919	5950	Nixe	24.9	15.1	22.8	27.0	19.3	27.3	21.0	12.4	9.4	20.2	17.3	19.6	18.7
			Leigh	24.0	11.7	22.7	27.0	18.9	31.5	23.8	12.8	16.5	22.5	19.9	25.4	21.2
			Ellis	23.8	6.0	17.5	19.7	15.8	28.1	19.5	9.1	10.3	20.6	13.2	20.9	18.4
			Lewis**	30.0	27.8	25.3	27.7	22.5	31.2	28.7	14.6	16.9	24.2	20.6	23.1	20.8
Bronco	885†															

* All drivers military except Lewis.

** Instrumented test.

† Small difference in rated payload and the 800 lb payload did not warrant retesting.

Table B11

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles with Rated Payload, Units 27-39, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 27	28	29	30	31	32	33	34	35	36	37	38	39
Ramcharger	1885	6515	Leigh	15.1	19.2	13.5	16.3	13.2	15.6	14.3	14.5	20.9	16.2	20.5	17.5	17.4
			Campbell	16.1	21.8	15.8	16.0	13.8	17.1	13.4	14.9	22.2	16.7	22.6	18.7	17.1
			White	12.7	15.6	12.1	12.3	11.7	13.2	11.0	10.8	18.6	12.5	15.6	15.5	13.9
			Lewis**	22.3	27.0	20.0	23.2	18.8	22.7	19.4	16.5	32.5	24.8	29.4	26.5	20.9
Blazer	1660	6400	Shaw	16.9	19.4	17.3	16.7	15.3	17.0	15.4	13.1	21.1	17.8	18.9	18.2	14.9
			Campbell	16.1	19.7	15.2	15.6	13.9	16.0	13.2	14.0	25.6	14.8	21.4	22.2	18.5
			Baker	15.9	20.5	16.5	18.0	15.0	17.7	15.6	15.2	23.4	17.6	22.0	21.8	20.3
			Lewis**	22.4	27.2	21.2	22.0	18.8	24.4	19.9	20.3	27.2	22.4	29.4	25.5	22.2
CJ5	1300	4090	White	15.6	20.6	15.1	16.2	19.4	17.6	13.5	14.8	20.5	16.2	18.0	18.9	14.1
			Leigh	18.3	21.2	16.7	17.7	16.7	18.8	14.6	15.1	21.8	17.8	21.4	20.6	18.3
			Ellis	15.4	19.5	14.6	16.5	14.8	16.3	15.3	14.2	23.1	18.6	22.2	18.5	27.8
			Lewis**	29.3	24.3	17.3	20.1	16.2	25.2	17.7	15.2	32.5	21.0	26.0	25.1	23.2
Scout	1919	5950	Nixe	17.3	16.3	16.3	18.1	13.4	18.3	15.6	14.1	21.3	19.2	21.3	20.1	16.3
			Leigh	20.9	23.4	17.7	20.7	17.7	21.5	19.8	14.8	28.3	18.3	26.8	24.1	22.2
			Ellis	15.5	20.5	12.8	19.0	13.6	16.0	15.8	13.9	25.9	21.0	23.9	22.3	16.7
			Lewis**	19.4	26.0	17.9	20.8	16.7	22.2	16.3	19.2	28.6	23.7	24.7	26.5	23.7
Bronco	885†															

* All drivers military except Lewis.

** Instrumented test.

† Small difference in rated payload and the 800 lb payload did not warrant retesting.

Table B12

Secondary Road or Trail Unit Speeds of 1/4-Ton Standard Commercial Vehicles with Rated Payload, Units 40-52, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 40	41	42	43	44	45	46	47	48	49	50	51	52
Ramcharger	1885	6515	Leigh	20.2	29.6	39.4	25.9	23.6	8.3	33.2	20.5	20.2	25.9	13.9	23.7	19.8
			Campbell	22.4	32.7	39.4	30.3	27.9	10.3	31.1	22.1	23.2	27.0	14.3	27.0	20.4
			White	16.4	28.2	36.5	28.5	19.9	9.1	24.2	18.5	18.6	20.2	10.4	20.6	16.2
			Lewis**	16.1	41.0	41.1	40.7	37.9	10.8	37.6	27.8	27.6	37.4	16.5	33.7	24.4
Blazer	1660	6400	Shaw	20.6	35.2	36.6	33.1	24.8	9.5	28.6	20.9	20.8	27.2	12.1	26.0	18.6
			Campbell	19.5	34.9	41.5	40.7	31.4	11.6	29.8	23.1	24.6	30.3	12.0	29.0	19.8
			Baker	18.6	37.8	41.1	36.5	28.7	9.5	29.8	23.5	22.1	30.3	15.1	29.5	19.8
			Lewis**	19.5	39.4	43.7	43.9	38.9	12.3	35.7	28.4	25.5	38.8	16.5	30.7	22.9
CJ5	1300	4090	White	16.8	33.0	38.0	34.3	25.8	10.9	29.2	22.3	15.2	23.8	13.8	24.9	19.1
			Leigh	22.3	35.6	38.0	31.3	26.0	11.1	29.8	22.3	22.9	28.0	16.2	28.6	20.6
			Ellis	17.3	36.0	41.1	29.7	29.3	10.6	31.1	24.8	21.8	24.8	14.9	28.2	20.9
			Lewis**	21.5	39.0	43.7	36.0	32.3	11.8	35.3	26.1	24.6	34.4	17.7	35.2	24.8
Scout	1919	5950	Nixe	14.0	33.8	38.0	30.0	26.5	8.6	25.1	19.6	23.5	28.6	13.9	26.9	20.9
			Leigh	16.1	36.7	37.3	40.2	33.4	10.3	31.1	23.3	25.0	36.0	14.1	30.3	26.5
			Ellis	13.4	34.6	43.3	36.5	29.3	9.4	31.1	23.1	31.4	27.5	11.9	29.7	19.3
			Lewis**	14.8	40.5	44.7	41.9	38.2	10.1	36.6	26.5	30.7	31.2	12.5	31.4	25.6
Bronco	885†															

* All drivers military except Lewis.

** Instrumented test.

† Small difference in rated payload and the 800 lb payload did not warrant retesting.

Table B13

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with Rated Payload, Units 1-13, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 1	2	3	4	5	6	7	8	9	10	11	12	13
Ramcharger	1885	6740	Campbell	40.5	39.4	40.7	41.0	42.9	43.0	41.9	38.6	20.9	38.3	38.6	17.6	28.8
			Leigh	40.4	42.8	39.6	39.5	40.4	39.5	39.9	43.0	20.0	34.2	39.1	17.5	27.5
			Allison	39.5	40.2	40.7	40.0	37.1	40.3	40.2	37.1	20.1	35.7	40.3	15.7	26.0
			Lewis**	44.0	43.3	43.2	50.2	45.5	48.0	45.0	47.3	23.7	39.7	44.5	21.7	38.8
Blazer	1660	6710	Shaw	40.5	39.5	43.4	40.2	38.5	40.6	39.6	43.0	20.7	36.6	41.2	17.7	26.8
			Leigh	40.7	39.8	38.0	41.1	41.4	40.0	41.2	39.8	21.3	36.5	42.4	14.3	28.3
			Baker	39.5	40.2	39.6	42.1	42.8	40.6	42.6	41.1	17.8	33.5	41.8	14.7	25.7
			Lewis**	46.0	49.1	52.8	49.1	47.2	47.2	49.0	49.8	26.0	36.6	47.6	22.3	34.5
CJ5	1300	4475	Campbell	38.8	38.7	40.7	39.7	40.4	39.2	39.9	40.3	23.2	34.2	38.3	21.3	33.3
			White	36.3	37.3	37.5	38.4	38.8	36.9	38.0	35.7	21.8	34.2	36.8	18.2	25.7
			Allison	39.5	38.7	39.6	39.3	39.1	40.3	38.6	35.0	22.2	39.7	43.1	18.0	29.2
			Lewis**	41.6	41.1	43.9	43.9	42.1	40.6	43.0	43.5	27.7	39.7	43.8	21.8	39.2
Scout	1919	6250	Campbell	40.3	38.0	39.6	42.6	42.4	42.7	41.9	37.9	18.1	39.3	40.9	17.7	38.8
			Nixe	40.4	42.8	44.5	42.6	42.1	41.2	41.9	41.6	17.2	24.8	40.6	17.7	32.2
			Allison	41.2	42.8	40.7	42.6	39.1	44.3	49.4	42.5	15.2	43.5	47.6	17.5	35.2
			Lewis**	45.0	46.3	43.2	42.6	43.2	44.3	45.0	47.3	25.4	40.2	52.1	19.1	37.2
Bronco	1340	5150	Allison	40.4	40.2	43.2	41.6	39.7	43.0	37.7	37.9	24.3	38.3	42.8	20.5	33.9
			Baker	38.4	38.0	39.6	36.1	37.1	38.2	36.6	37.5	21.8	36.6	36.1	18.4	29.7
			White	38.5	39.5	38.5	40.6	40.4	38.7	38.0	36.7	21.8	37.9	38.9	19.9	29.0
			Lewis**	41.6	41.5	45.3	44.2	41.7	42.7	44.1	45.6	30.5	46.7	42.4	23.6	38.0

* All drivers military except Lewis.

** Instrumented test.

Table B14

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with Rated Payload, Units 14-26, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 14	15	16	17	18	19	20	21	22	23	24	25	26
Ramcharger	1885	6740	Campbell	22.8	11.7	18.1	19.1	14.4	25.5	20.8	8.0	9.5	14.8	10.2	14.5	13.0
			Leigh	24.0	12.2	21.3	24.8	19.9	28.7	24.0	12.0	12.5	18.0	14.4	18.5	16.3
			Allison	24.0	13.9	20.7	25.5	19.2	29.1	21.8	11.4	13.2	19.1	12.6	17.5	15.0
			Lewis**	32.6	17.5	28.3	30.9	25.7	43.1	33.2	15.0	20.6	28.4	24.9	24.0	27.0
Blazer	1660	6710	Shaw	22.8	14.4	20.6	24.2	19.9	26.3	21.5	12.4	14.8	18.7	15.5	18.8	17.0
			Leigh	29.3	14.5	25.3	29.0	22.8	36.9	24.4	16.1	16.0	22.9	18.1	22.0	19.7
			Baker	19.7	13.0	19.8	22.7	17.9	27.2	21.8	28.9	13.4	16.9	14.3	18.0	16.7
			Lewis**	30.7	16.9	28.7	33.9	27.2	40.8	37.5	18.3	20.4	29.1	24.5	30.5	24.7
CJ5	1300	4475	Campbell	27.5	16.9	23.2	28.1	22.9	31.5	25.2	14.0	16.3	21.0	19.4	22.3	19.7
			White	21.8	14.8	19.2	22.1	18.9	27.7	22.5	12.4	15.1	19.7	16.0	20.1	17.9
			Allison	25.1	15.5	22.2	25.7	20.4	30.3	25.7	12.7	16.9	21.6	18.2	23.3	19.3
			Lewis**	31.1	21.7	32.7	33.1	25.5	36.4	29.6	15.6	20.0	26.2	23.2	25.2	23.8
Scout	1919	6250	Campbell	30.7	18.0	25.2	27.7	24.7	37.1	31.5	13.7	17.9	24.3	19.9	25.9	23.1
			Nixe	26.9	17.4	27.0	29.0	24.6	37.3	26.6	12.3	17.2	25.0	19.9	23.6	20.8
			Allison	28.7	18.8	28.7	28.8	25.6	40.8	33.2	17.4	16.2	24.7	19.9	25.2	22.0
			Lewis**	31.4	20.5	31.9	31.6	27.4	38.7	31.1	14.3	19.4	27.5	17.2	28.8	24.4
Bronco	1340	5150	Allison	28.4	16.3	24.9	27.0	23.9	33.4	30.5	14.4	18.6	25.4	19.5	25.2	20.6
			Baker	25.1	16.7	21.2	25.3	20.7	30.1	28.4	13.3	13.9	21.2	18.0	20.2	17.9
			White	24.7	16.7	23.2	26.6	22.0	31.5	24.8	14.2	17.7	22.3	18.8	22.7	19.8
			Lewis**	31.8	20.1	29.7	33.1	27.3	36.9	31.1	14.3	19.9	26.9	23.6	27.3	25.3

* All drivers military except Lewis.

** Instrumented test.

Table B15

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with Rated Payload, Units 27-39, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 27	28	29	30	31	32	33	34	35	36	37	38	39
Ramcharger	1885	6740	Campbell	11.3	14.9	10.5	12.3	9.9	12.3	9.5	11.1	21.8	12.9	19.0	16.3	15.1
			Leigh	17.1	19.2	15.3	15.3	13.2	15.0	13.4	14.5	20.9	17.5	19.1	19.1	19.7
			Allison	15.7	19.4	16.5	16.4	12.8	16.1	13.2	14.7	26.5	18.5	22.6	23.1	22.2
			Lewis**	23.6	30.6	20.7	25.5	17.5	25.8	20.0	18.6	29.4	27.2	31.6	30.3	24.8
Blazer	1660	6710	Shaw	17.8	19.9	18.4	18.0	12.4	17.7	15.3	14.5	23.1	17.5	22.0	23.5	16.7
			Leigh	18.8	22.8	20.1	20.3	14.6	19.7	17.8	17.7	26.2	25.9	26.0	23.1	26.1
			Baker	15.5	19.4	14.9	17.5	13.3	16.7	14.4	14.3	21.3	15.4	20.1	18.6	18.8
			Lewis**	24.2	31.7	22.1	24.7	19.1	25.0	20.5	22.7	31.1	25.1	30.4	29.4	23.2
CJ5	1300	4475	Campbell	18.7	24.2	17.5	18.5	17.1	20.8	16.6	16.3	24.7	18.8	23.8	21.5	18.1
			White	17.5	21.2	17.3	17.8	15.8	19.2	14.8	16.6	23.9	18.2	21.7	21.0	19.0
			Allison	19.4	21.8	13.9	19.1	12.8	19.2	16.3	17.3	26.9	21.6	23.9	21.5	21.3
			Lewis**	22.2	29.6	20.0	23.3	22.1	26.1	18.9	20.2	29.0	22.0	27.4	25.6	20.9
Scout	1919	6250	Campbell	23.5	30.0	10.2	26.5	18.5	26.3	27.0	18.8	27.2	20.0	28.3	23.7	22.9
			Nixe	20.4	26.4	19.6	21.0	17.4	23.5	18.3	16.8	26.9	22.9	27.4	24.8	21.3
			Allison	20.4	30.1	16.5	21.0	15.6	22.9	18.4	19.9	29.8	24.1	29.5	25.3	26.1
			Lewis**	21.3	31.7	21.0	22.0	18.5	25.8	20.1	21.9	30.2	25.8	30.8	30.0	25.8
Bronco	1340	5150	Allison	19.6	24.8	17.3	21.3	17.4	21.6	17.5	19.2	25.0	22.1	26.2	23.8	23.7
			Baker	17.0	22.1	17.0	19.1	15.0	18.6	15.7	16.0	24.2	18.0	20.6	20.5	22.2
			White	19.0	24.7	17.5	19.7	17.2	21.7	16.7	19.2	24.2	20.0	22.8	27.1	21.5
			Lewis**	22.6	27.9	24.5	25.4	18.4	23.5	18.0	21.0	31.1	24.7	28.2	29.1	27.8

* All drivers military except Lewis.

** Instrumented test.

Table B16

Secondary Road or Trail Unit Speeds of 1/4-Ton High-Performance Commercial Vehicles with Rated Payload, Units 40-52, Traverse Test Course, Fort Hood, Texas

Vehicle	Payload lb	Gross Weight lb	Driver*	Unit Speed, mph 40	41	42	43	44	45	46	47	48	49	50	51	52
Ramcharger	1885	6740	Campbell	18.3	36.5	40.2	38.0	31.4	10.3	31.4	23.3	22.3	23.3	9.6	27.5	18.1
			Leigh	24.4	36.4	35.9	30.0	27.2	10.8	31.8	22.3	23.7	27.8	15.5	30.1	21.9
			Allison	15.3	35.8	40.6	38.5	27.0	10.3	27.7	22.8	23.9	28.6	14.9	27.4	19.1
			Lewis**	21.8	42.1	44.2	46.0	43.0	13.7	41.4	28.8	29.7	40.9	18.9	37.1	26.1
Blazer	1660	6710	Shaw	21.1	37.0	39.4	33.1	27.4	10.9	32.5	22.1	22.9	28.8	14.5	26.6	21.9
			Leigh	26.0	40.9	43.0	40.2	32.3	10.9	38.6	23.1	27.0	35.2	16.1	30.4	24.8
			Baker	17.5	35.5	40.2	33.9	27.9	9.9	32.5	23.2	21.8	27.0	14.9	27.2	20.4
			Lewis**	22.6	41.6	47.3	47.5	43.9	12.1	39.7	29.6	27.8	40.9	19.3	33.0	27.0
CJ5	1300	4475	Campbell	24.3	35.7	37.3	36.5	34.1	12.3	34.0	28.0	22.7	30.3	17.3	32.5	23.4
			White	21.3	33.8	37.3	37.5	28.7	11.1	29.8	23.5	22.0	28.0	16.1	26.7	22.7
			Allison	21.6	33.8	43.3	35.6	29.7	10.8	34.0	23.3	22.9	27.3	16.5	28.8	22.2
			Lewis**	19.1	38.6	44.2	40.7	40.2	14.9	39.1	30.8	29.4	37.9	21.5	36.0	28.3
Scout	1919	6250	Campbell	18.8	39.5	42.4	40.2	36.4	12.6	34.0	27.4	27.6	37.9	14.9	34.9	25.2
			Nixe	17.7	40.1	39.8	38.0	33.4	11.4	32.8	27.6	26.0	29.1	26.5	34.5	23.6
			Allison	18.6	39.5	42.8	38.5	36.6	10.6	36.6	26.5	28.1	37.4	18.8	36.3	25.6
			Lewis**	19.5	41.2	44.7	40.7	42.7	12.3	37.1	29.6	28.1	40.4	18.1	34.9	26.1
Bronco	1340	5150	Allison	27.1	37.0	40.2	38.5	35.3	11.6	34.4	25.0	23.9	33.6	16.7	31.9	25.6
			Baker	20.8	34.9	37.3	36.5	28.6	12.3	35.7	24.7	21.4	32.2	17.4	29.3	23.6
			White	23.6	36.2	37.6	38.0	31.7	11.5	34.0	25.3	23.9	30.3	16.2	31.8	24.2
			Lewis**	26.0	39.0	39.1	39.1	39.9	12.6	38.1	25.6	28.1	35.2	18.9	36.6	27.5

* All drivers military except Lewis.

** Instrumented test.

Table B17

Dynamics Data for Standard Ramcharger with 800-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in.	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	40.1	0.2	0.63	0.54	262	17	8	1	2	0
2	590	41.1	0.3	0.62	0.46	21	1	0	0	0	0
3	416	40.7	0.4	0.61	0.49	14	0	0	0	0	0
4	1037	41.6	0.2	2.13	0.55	48	5	4	1	0	0
5	734	40.0	0.1	0.73	0.54	61	0	0	0	0	0
6	845	42.4	0.2	0.62	0.45	24	5	0	0	0	0
7	725	45.0	0.1	1.31	0.55	43	16	1	0	0	0
8	555	41.1	0.2	1.25	0.53	19	5	3	0	0	0
9	313	25.7	1.3	4.08	0.59	31	4	2	0	0	0
10	472	37.9	0.2	0.46	0.47	24	0	0	0	0	0
11	809	40.9	0.1	0.33	0.46	16	0	0	0	0	0
12	432	22.0	2.3	6.22	0.70	92	13	1	1	0	0
13	557	35.2	0.3	2.25	0.55	31	7	1	2	0	0
14	387	29.3	0.8	6.72	0.86	210	72	6	0	1	1
15	596	17.4	2.6	14.44	0.84	103	50	15	4	0	1
16	1070	24.4	1.0	8.68	0.78	159	42	28	3	4	1
17	617	30.1	0.8	6.53	0.79	141	28	9	4	1	0
18	1486	23.4	2.1	8.20	0.82	240	95	25	6	3	0
19	897	39.0	0.9	6.46	0.82	109	35	9	3	2	0
20	429	29.3	1.0	5.08	0.91	117	37	10	9	2	0
21	568	13.5	1.8	18.06	0.89	133	68	23	5	4	1
22	875	16.9	2.2	14.90	0.84	182	58	29	6	3	[illegible]
23	733	22.7	1.0	12.49	0.97	97	54	17	13	1	2
24	460	17.6	2.2	20.14	0.97	302	178	22	9	3	0
25	380	26.4	0.9	8.58	0.86	64	32	12	3	1	0
26	593	21.7	1.9	8.22	0.89	96	34	12	4	3	1
27	815	19.5	1.2	18.46	1.01	118	80	37	10	4	3
28	1171	25.8	0.8	9.63	0.93	170	80	50	18	4	0
29	431	21.3	1.3	13.75	0.99	84	54	22	5	2	1
30	580	23.0	1.4	14.98	0.94	100	43	17	4	5	0
31	550	16.3	2.2	20.69	0.94	86	45	17	9	4	2
32	793	22.9	1.9	11.38	0.93	149	80	36	9	4	0
33	927	17.1	1.1	20.00	0.93	185	99	39	1	5	0
34	513	16.3	1.5	11.96	0.83	78	28	15	2	4	1
35	319	29.0	1.0	4.64	0.69	34	15	1	1	0	0
36	590	21.6	1.4	16.25	0.94	106	38	17	6	1	0
37	723	29.5	1.0	11.04	1.01	186	194	56	9	6	3
38	1152	25.0	1.9	9.96	0.84	116	56	17	11	3	1
39	306	23.2	0.7	5.00	0.80	231	18	5	1	0	0
40	457	22.0	1.6	9.00	-	-*	-	-	-	-	-
41	1258	39.7	0.2	2.47	0.58	50	15	8	1	1	1
42	590	47.9	0.3	0.68	0.42	15	1	0	0	0	0
43	418	43.2	0.4	0.91	0.49	10	0	0	0	0	0
44	901	37.5	1.2	2.22	0.53	38	3	0	0	0	0
45	181	12.3	1.0	7.42	0.69	29	10	3	0	0	0
46	419	38.1	1.0	3.03	0.64	10	4	0	1	0	0
47	582	23.4	1.6	4.84	0.58	36	4	1	0	0	0
48	396	33.8	0.7	1.39	0.62	25	5	3	2	0	0
49	444	38.8	1.4	5.87	0.84	41	18	3	0	0	0
50	319	18.8	3.4	8.58	0.68	30	7	2	2	0	0
51	1316	33.0	0.5	4.86	0.60	49	14	4	1	0	1
52	436	24.0	1.3	5.90	0.62	25	3	2	0	0	0

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table B18

Dynamics Data for Standard Blazer with 800-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.5	0.2	0.52	0.44	62	9	4	1	1	0
2	590	40.2	0.3	0.46	0.41	15	2	0	0	0	0
3	416	41.9	0.4	0.98	0.46	18	0	0	0	0	0
4	1037	41.6	0.2	1.52	0.46	40	4	2	0	0	0
5	734	42.1	0.1	0.52	0.43	12	1	0	0	0	0
6	845	40.5	0.2	0.28	0.36	6	0	0	0	0	0
7	725	41.2	0.1	1.04	0.49	26	6	1	0	0	0
8	555	48.5	0.2	0.88	0.57	33	4	2	0	0	0
9	313	25.7	1.3	1.64	0.52	4	4	1	0	0	0
10	472	38.3	0.2	0.58	0.43	6	0	0	0	0	0
11	809	41.8	0.1	0.20	0.40	5	0	0	0	0	0
12	432	19.4	2.3	4.20	0.61	45	6	1	1	0	0
13	557	36.2	0.3	2.72	0.51	18	3	1	0	0	0
14	387	28.7	0.8	4.48	0.63	29	3	3	0	0	0
15	596	18.2	2.6	13.58	0.86	93	36	19	5	2	0
16	1070	26.8	1.0	8.88	0.86	148	84	76	33	6	3
17	617	34.5	0.8	6.92	0.76	49	13	4	5	0	0
18	1486	25.9	2.1	7.90	0.80	149	71	22	6	5	0
19	897	43.4	0.9	13.75	0.96	76	18	12	9	1	4
20	429	37.5	1.0	12.84	0.98	36	21	12	2	2	0
21	568	14.9	1.8	17.22	0.79	105	35	11	2	3	0
22	875	19.6	2.2	15.35	0.87	146	58	16	6	4	2
23	733	25.9	1.0	11.34	0.97	79	41	19	11	6	3
24	460	22.1	2.2	15.60	0.98	63	38	30	6	2	0
25	380	29.8	0.9	7.20	0.72	57	17	4	0	1	0
26	593	24.7	1.9	7.84	0.80	78	25	7	5	2	0
27	815	25.5	1.2	15.90	0.91	116	36	14	6	3	2
28	1171	27.9	0.8	13.04	0.99	122	63	28	9	11	7
29	431	21.1	1.3	19.14	0.95	58	20	12	5	4	1
30	580	25.7	1.4	11.52	0.96	55	33	19	4	6	0
31	550	17.3	2.2	12.83	0.80	56	25	12	3	2	0
32	793	23.5	1.9	13.13	0.91	113	61	17	2	3	2
33	927	19.8	1.1	13.85	0.86	184	69	21	4	3	1
34	513	20.1	1.5	10.31	0.89	72	28	8	4	3	0
35	319	31.1	1.0	4.94	0.73	23	11	2	0	0	0
36	590	24.5	1.4	10.00	0.87	77	25	7	4	3	1
37	723	27.7	1.0	9.92	0.85	61	38	7	3	6	0
38	1152	26.2	1.9	10.06	0.82	95	42	6	3	4	0
39	306	24.6	0.7	4.52	0.71	40	11	4	0	0	0
40	457	22.3	1.6	10.06	0.80	40	9	6	2	4	2
41	1258	43.1	0.2	2.38	0.54	32	9	2	0	0	0
42	590	44.7	0.3	0.52	0.40	4	0	0	0	0	0
43	418	45.3	0.4	0.90	0.51	15	2	0	0	0	0
44	901	41.5	1.2	2.68	0.61	44	10	2	1	0	0
45	181	13.7	1.0	5.39	0.70	23	5	2	0	0	0
46	419	40.8	1.0	4.66	0.77	6	6	0	0	1	1
47	582	30.5	1.6	6.52	0.82	37	8	5	2	1	0
48	396	30.7	0.7	2.60	0.69	25	4	1	5	0	0
49	444	40.9	1.4	8.40	0.84	27	9	7	1	1	0
50	319	18.8	3.4	4.78	0.67	17	10	1	1	0	0
51	1316	32.8	0.5	4.78	0.60	55	14	3	3	0	0
52	436	25.6	1.3	11.68	0.71	21	3	3	0	1	1

Table B19

Dynamics Data for Standard CJ5 with 800-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	40.1	0.2	0.44	0.44	43	10	0	0	0	0
2	590	40.2	0.3	0.48	0.42	5	0	0	0	0	0
3	416	35.2	0.4	0.43	0.41	2	1	0	0	0	0
4	1037	39.7	0.2	0.61	0.44	23	0	0	0	0	0
5	734	41.7	0.1	0.35	0.43	8	0	0	0	0	0
6	845	41.2	0.2	0.27	0.37	2	0	0	0	0	0
7	725	40.9	0.1	0.83	0.45	23	2	0	0	0	0
8	555	40.7	0.2	0.57	0.43	14	3	0	0	0	0
9	313	23.2	1.3	2.70	0.49	14	3	0	0	0	0
10	472	40.2	0.2	0.50	0.44	10	0	0	0	0	0
11	809	37.8	0.1	0.44	0.41	4	0	0	0	0	0
12	432	20.7	2.3	4.13	0.60	50	5	1	0	0	0
13	557	27.7	0.3	2.14	0.55	35	7	0	0	0	0
14	387	25.9	0.8	2.29	0.61	32	4	4	0	0	0
15	596	16.1	2.6	6.04	0.72	121	28	6	1	1	0
16	1070	23.8	1.0	4.63	0.70	117	33	18	3	1	0
17	617	28.6	0.8	4.22	0.72	63	17	4	3	2	0
18	1486	19.6	2.1	7.42	0.71	214	41	13	5	2	1
19	897	32.2	0.9	3.73	0.65	109	15	1	0	0	0
20	429	27.1	1.0	4.07	0.77	59	20	5	1	2	0
21	568	11.5	1.8	14.68	0.67	241	63	14	3	0	0
22	875	16.4	2.2	13.63	-*	-	-	-	-	-	-
23	733	20.0	1.0	9.68	0.69	68	22	7	3	1	1
24	460	16.0	2.2	8.70	0.70	100	21	1	0	1	0
25	380	19.0	0.9	8.10	0.70	75	9	4	3	0	0
26	593	18.2	1.9	10.06	0.65	92	11	2	0	0	0
27	815	19.6	1.2	10.14	0.70	128	28	4	2	1	0
28	1171	22.8	0.8	6.68	0.70	141	31	10	3	0	1
29	431	16.2	1.3	7.70	0.67	91	13	2	0	0	0
30	580	18.8	1.4	9.00	0.71	112	25	6	1	0	0
31	550	16.3	2.2	13.57	0.72	69	17	9	1	1	0
32	793	19.6	1.9	9.00	0.71	124	41	8	0	1	1
33	927	16.8	1.1	10.68	0.76	222	56	14	1	0	0
34	513	15.9	1.5	8.94	0.72	92	28	7	0	1	0
35	319	29.0	1.0	2.62	0.63	26	5	0	0	0	0
36	590	21.9	1.4	8.94	0.80	98	35	10	0	3	0
37	723	24.5	1.0	8.20	0.69	51	16	9	3	3	0
38	1152	26.2	1.9	8.20	0.65	93	22	7	0	2	0
39	306	22.4	0.7	4.40	0.58	28	2	0	0	0	0
40	457	21.3	1.6	7.40	0.60	55	6	3	1	0	0
41	1258	39.0	0.2	1.43	0.48	38	10	1	0	0	0
42	590	40.2	0.3	0.43	0.36	3	0	0	0	0	0
43	418	37.5	0.4	0.60	0.40	1	1	0	0	0	0
44	901	31.0	1.2	1.78	0.51	11	3	1	0	0	0
45	181	15.0	1.0	3.44	0.63	17	10	1	0	0	0
46	419	39.7	1.0	7.46	0.71	7	1	2	0	0	0
47	582	25.8	1.6	3.50	0.55	20	1	1	0	0	0
48	396	25.5	0.7	0.94	0.50	4	1	0	0	0	0
49	444	30.2	1.4	4.09	0.58	28	1	0	0	0	0
50	319	17.0	3.4	3.54	0.56	16	5	0	0	0	0
51	1316	42.1	0.5	4.15	0.52	32	14	1	0	0	0
52	436	23.2	1.3	5.36	0.57	8	1	1	1	0	0

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table B20

Dynamics Data for Standard Scout with 800-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	44.1	0.2	0.40	0.33	11	1	1	1	0	0
2	590	44.7	0.3	0.34	0.25	0	0	0	0	0	0
3	416	44.5	0.4	0.42	0.28	0	0	0	0	0	0
4	1037	45.3	0.2	0.82	0.32	7	0	0	0	0	0
5	734	46.4	0.1	0.30	0.35	2	2	0	0	0	0
6	845	45.0	0.2	0.18	0.23	0	0	0	0	0	0
7	725	45.8	0.1	0 40	0.31	0	0	0	0	0	0
8	555	44.5	0.2	0.42	0.28	1	0	0	0	0	0
9	313	28.1	1.3	3.16	0.57	10	1	0	2	1	0
10	472	40.2	0.2	0.54	0.33	1	0	0	0	0	0
11	809	46.0	0.1	0.18	0.31	0	0	0	0	0	0
12	432	15.5	2.3	3.26	—*	–	–	–	–	–	–
13	557	32.2	0.3	1.82	0.35	2	0	0	0	0	0
14	387	30.3	0.8	3.20	0.61	12	5	2	0	1	0
15	596	22.6	2.6	10.36	0.89	72	37	13	7	5	0
16	1070	29.8	1.0	5.28	0.66	76	25	10	2	4	0
17	617	32.9	0.8	6.40	0.71	39	17	8	2	2	0
18	1486	26.1	2.1	6.18	0.69	101	22	15	6	4	0
19	897	35.6	0.9	6.86	0.69	35	18	6	8	2	0
20	429	34.8	1.0	4.46	0.81	31	9	10	3	2	0
21	568	17.9	1.8	14.80	0.83	49	48	11	7	2	1
22	875	21.7	2.2	15.78	0.88	110	31	25	9	5	2
23	733	25.2	1.0	9.25	0.79	58	21	14	7	6	0
24	460	25.5	2.2	9.29	0.75	69	10	7	2	0	0
25	380	28.8	0.9	5.48	0.64	30	6	3	1	0	0
26	593	25.3	1.9	9.20	0.74	57	11	8	2	2	1
27	815	25.7	1.2	14.26	0.89	88	40	12	4	5	1
28	1171	31.6	0.8	6.18	0.80	113	31	17	11	3	0
29	431	24.3	1.3	15.62	0.94	46	22	14	5	2	0
30	580	25.4	1.4	6.56	0.81	81	22	11	3	2	0
31	550	22.6	2.2	11.00	0.84	58	26	8	1	3	0
32	793	27.3	1.9	8.02	0.84	92	38	17	7	4	0
33	927	21.2	1.1	10.83	0.86	163	62	21	6	5	0
34	513	20.8	1.5	7.46	0.87	66	19	9	10	5	0
35	319	35.1	1.0	3.25	0.70	17	9	2	0	0	0
36	590	28.1	1.4	6.69	0.80	66	19	4	2	1	1
37	723	30.1	1.0	6.32	0.74	58	14	8	7	0	0
38	1152	29.1	1.9	5.63	0.68	31	19	5	0	2	0
39	306	23.2	0.7	2.55	0.63	28	1	0	0	0	0
40	457	15.8	1.6	4.84	0.60	34	10	2	0	2	1
41	1258	41.2	0.2	1.14	0.49	27	5	1	1	0	0
42	590	48.5	0.3	0.32	0.36	0	0	0	0	0	0
43	418	41.9	0.4	0.44	0.50	3	1	0	0	0	0
44	901	42.7	1.2	2.62	0.56	17	4	2	0	1	1
45	181	13.1	1.0	4.94	0.67	11	2	1	2	0	0
46	419	38.1	1.0	5.65	0.65	5	2	3	1	1	0
47	582	30.5	1.6	6.74	0.78	17	9	3	1	4	1
48	396	30.0	0.7	0.92	0.56	9	2	2	0	0	0
49	444	40.9	1.4	3.58	0.70	27	3	3	0	0	0
50	319	16.0	1.4	4.93	0.54	11	2	3	0	0	0
51	1316	34.0	0.5	1.88	0.47	20	2	3	1	1	0
52	436	25.6	1.3	5.19	0.62	10	5	1	1	2	0

* Dashes indicate that no data were collected as a result of instrumentation failues.

Table B21

Dynamics Data for Standard Bronco with 800-lb Payload Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated					
						>1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	43.6	0.2	0.68	0.40	16	7	1	1	1	1
2	590	43.7	0.3	0.32	0.33	0	0	0	0	0	0
3	416	45.3	0.4	0.30	0.34	0	0	0	0	0	0
4	1037	40.6	0.2	0.68	0.35	7	0	0	0	0	0
5	734	39.7	0.1	0.48	-*	-	-	-	-	-	-
6	845	46.5	0.2	0.34	0.32	0	0	0	0	0	0
7	725	40.2	0.1	0.70	0.39	15	2	0	0	0	0
8	555	46.2	0.2	0.24	0.23	0	0	0	0	0	0
9	313	30.5	1.3	32.54	0.93	11	4	3	1	3	2
10	472	47.3	0.2	0.80	0.46	12	0	0	0	0	0
11	809	41.8	0.1	0.20	0.35	0	0	0	0	0	0
12	432	24.2	2.3	8.80	0.77	52	10	3	3	1	0
13	557	31.7	0.3	1.75	0.59	34	4	0	0	0	0
14	387	30.3	0.8	8.95	0.71	20	10	0	3	1	0
15	596	20.6	2.6	14.70	0.89	102	49	11	7	2	1
16	1070	27.6	1.0	12.30	0.83	114	42	16	16	7	2
17	617	30.5	0.8	26.35	0.80	72	22	11	4	1	0
18	1486	25.1	2.1	14.90	0.81	195	54	20	4	4	2
19	897	40.8	0.9	21.40	0.90	90	31	9	5	5	1
20	429	26.6	1.0	9.65	0.86	41	14	10	4	1	1
21	568	13.4	1.8	22.87	0.77	122	47	14	3	3	1
22	875	17.7	2.2	16.55	0.83	148	64	19	9	8	0
23	733	26.7	1.0	16.04	0.87	86	37	19	4	3	1
24	460	19.6	2.2	21.30	0.82	109	33	9	4	6	0
25	380	25.4	0.9	8.06	0.79	53	16	5	2	1	0
26	593	23.7	1.9	29.90	0.89	109	40	19	4	3	0
27	815	22.6	1.2	22.92	0.89	122	67	23	11	4	0
28	1171	28.6	0.8	30.10	0.95	77	75	34	9	6	3
29	431	19.6	1.3	21.57	0.75	186	35	6	2	1	1
30	580	22.6	1.4	28.45	0.94	209	130	141	3	6	1
31	550	17.4	2.2	23.38	0.78	103	30	9	4	2	0
32	793	24.0	1.9	12.95	0.83	119	33	8	8	2	1
33	927	18.2	1.1	17.14	0.93	193	68	35	7	1	1
34	513	19.4	1.5	14.24	0.98	78	38	20	8	1	1
35	319	25.9	1.0	2.90	0.63	17	5	1	1	0	0
36	590	25.2	1.4	18.38	0.86	64	45	8	5	3	0
37	723	29.4	1.0	9.56	0.79	75	31	13	5	2	0
38	1152	27.9	1.9	13.54	0.85	121	59	17	4	3	2
39	306	26.1	0.7	5.29	0.74	36	11	3	2	0	1
40	457	29.4	1.6	13.85	1.00	56	18	10	2	4	1
41	1258	39.7	0.2	1.24	0.53	34	7	4	0	1	0
42	590	42.4	0.3	0.28	0.35	0	0	0	0	0	0
43	418	38.5	0.4	0.42	0.42	6	1	0	0	0	0
44	901	41.8	1.2	4.84	0.68	26	5	3	0	3	1
45	181	13.1	1.0	9.44	0.88	37	6	4	2	2	2
46	419	46.1	1.0	6.80	0.75	13	4	3	1	0	0
47	582	32.0	1.6	17.16	1.02	25	12	7	2	5	5
48	396	28.1	0.7	2.60	0.74	36	11	3	3	0	0
49	444	38.8	1.4	4.90	0.83	37	18	2	0	1	1
50	319	16.6	3.4	8.22	0.67	30	7	3	0	0	0
51	1316	37.4	0.5	6.40	0.64	45	8	5	1	3	1
52	436	29.4	1.3	20.34	0.94	24	10	4	2	2	2

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table 822

Dynamics Data for High-Performance Ramcharger with 800-lb Payload Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	47.0	0.2	0.52	0.44	50	10	3	1	0	0
2	590	44.2	0.3	0.48	0.38	3	0	0	0	0	0
3	416	50.9	0.4	0.62	0.42	5	0	0	0	0	0
4	1037	47.1	0.2	0.76	0.35	12	0	0	0	0	0
5	734	47.2	0.1	0.54	0.41	14	0	0	0	0	0
6	845	46.9	0.2	0.40	0.33	6	0	0	0	0	0
7	725	46.6	0.1	1.26	0.42	21	2	0	0	0	0
8	555	53.3	0.2	0.44	0.40	11	1	0	0	0	0
9	313	27.4	1.3	1.88	0.59	6	3	1	1	0	0
10	472	44.1	0.2	0.80	0.44	10	0	0	0	0	0
11	809	50.2	0.1	0.26	0.41	5	0	0	0	0	0
12	432	24.3	2.3	8.62	0.89	44	17	3	2	1	2
13	557	38.0	0.3	3.08	0.64	33	5	2	1	0	0
14	387	28.7	0.8	11.46	0.90	27	8	4	1	3	2
15	596	18.1	2.6	13.90	0.84	96	32	8	2	1	2
16	1070	32.6	1.0	8.76	0.93	290	40	28	11	5	0
17	617	32.4	0.8	8.52	0.88	125	20	10	5	3	0
18	1486	28.8	2.1	12.18	1.00	129	67	14	11	8	2
19	897	40.2	0.9	16.08	1.02	58	21	13	4	4	2
20	429	32.5	1.0	7.38	1.09	33	25	4	8	1	2
21	568	14.1	1.8	25.00	0.93	102	36	16	9	3	1
22	875	18.6	2.2	17.97	0.87	133	59	14	8	2	2
23	733	27.8	1.0	23.40	1.09	60	47	21	9	9	2
24	460	17.4	2.2	16.20	0.92	78	37	12	1	2	0
25	380	26.4	0.9	6.75	0.83	77	32	1	2	0	0
26	593	26.1	1.9	6.73	0.90	44	21	9	5	1	3
27	815	22.6	1.2	17.88	0.91	92	37	16	2	5	2
28	1171	29.4	0.8	9.42	0.93	107	45	26	11	3	1
29	431	23.3	1.3	22.35	1.06	105	73	13	8	2	2
30	580	23.4	1.4	16.80	1.02	51	28	19	11	2	2
31	550	16.6	2.2	16.10	0.87	74	19	14	5	3	1
32	793	25.8	1.9	14.64	1.00	266	45	30	9	4	2
33	927	19.8	1.1	17.45	0.92	138	72	29	4	2	0
34	513	18.9	1.5	14.34	0.84	76	29	10	2	1	0
35	319	33.0	1.0	4.70	0.84	17	5	4	0	0	0
36	590	25.3	1.4	9.14	1.01	42	31	21	4	2	0
37	723	30.8	1.0	13.92	1.02	174	56	37	10	5	1
38	1152	29.2	1.9	11.52	0.87	98	36	15	4	5	0
39	306	24.8	0.7	4.38	0.71	34	7	2	0	0	0
40	457	23.4	1.6	17.00	0.84	45	11	7	4	0	0
41	1258	42.5	0.2	2.76	0.55	26	12	3	0	1	0
42	590	46.8	0.3	0.60	0.36	3	0	0	0	0	0
43	418	43.2	0.4	1.02	0.46	2	0	1	0	0	0
44	901	41.5	1.2	3.42	0.63	27	2	1	2	0	0
45	181	12.6	1.0	4.50	0.76	13	11	1	0	0	0
46	419	44.0	1.0	5.73	1.05	6	6	2	1	0	1
47	582	30.5	1.6	6.62	0.88	28	6	1	5	1	0
48	396	29.0	0.7	3.10	0.72	17	4	3	0	0	0
49	444	43.3	1.4	5.50	0.87	40	10	4	1	1	0
50	319	19.3	3.4	7.17	0.67	20	5	1	0	0	0
51	1316	35.9	0.5	4.68	0.62	45	8	4	4	2	0
52	436	25.9	1.3	13.30	0.81	15	8	0	2	1	0

Table B23

Dynamics Data for High-Performance Blazer with 800-lb Payload Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	47.2	0.2	0.76	0.48	99	28	7	3	0	0
2	590	44.2	0.3	0.50	0.41	14	0	0	0	0	0
3	416	49.2	0.4	0.86	0.45	19	0	0	0	0	0
4	1037	49.5	0.2	1.67	0.51	73	13	2	0	0	0
5	734	49.1	0.1	0.52	0.53	66	4	0	0	0	0
6	845	50.1	0.2	0.77	0.42	28	3	0	1	0	0
7	725	46.6	0.1	1.40	0.55	35	13	4	1	0	0
8	555	51.2	0.2	0.44	0.48	23	1	1	0	0	0
9	313	26.0	1.3	3.43	0.64	8	7	3	0	1	1
10	472	39.7	0.2	0.57	0.49	18	3	0	0	0	0
11	809	50.2	0.1	0.29	0.47	38	3	1	0	0	0
12	432	22.5	2.3	6.73	0.72	54	13	6	2	0	0
13	557	35.8	0.3	3.02	0.52	20	4	1	1	0	0
14	387	29.3	0.8	6.10	0.71	31	5	2	1	1	0
15	596	17.2	2.6	15.41	0.85	111	35	22	5	5	1
16	1070	27.9	1.0	13.10	0.92	131	56	30	23	7	1
17	617	31.4	0.8	12.84	0.86	62	29	11	7	4	0
18	1486	26.5	2.1	11.00	0.82	197	54	24	19	3	0
19	897	40.8	0.9	17.14	0.92	110	38	9	6	3	1
20	429	33.2	1.0	7.40	0.93	36	22	6	4	1	1
21	568	14.0	1.8	20.24	0.84	91	33	9	3	5	1
22	875	18.7	2.2	20.12	0.85	150	64	20	9	6	1
23	733	27.5	1.0	17.06	0.99	84	42	19	12	4	1
24	460	24.0	2.2	24.57	1.08	65	50	29	9	5	0
25	380	28.5	0.9	11.72	0.87	171	21	6	1	1	1
26	593	25.0	1.9	11.14	0.90	44	27	19	6	4	2
27	815	22.2	1.2	19.82	0.99	250	101	24	6	12	2
28	1171	28.8	0.8	14.20	1.05	133	67	29	9	8	3
29	431	22.3	1.3	22.42	0.95	125	63	18	3	4	2
30	580	23.3	1.4	18.98	1.12	296	48	24	9	7	5
31	550	19.7	2.2	26.27	0.97	62	38	24	13	4	2
32	793	24.0	1.9	16.15	0.93	123	51	29	6	7	1
33	927	19.8	1.1	24.06	0.94	162	76	31	7	1	1
34	513	20.1	1.5	13.80	0.88	84	40	16	1	2	0
35	319	32.0	1.0	7.08	0.82	29	7	5	2	2	0
36	590	25.8	1.4	15.55	1.03	61	45	22	7	6	1
37	723	31.6	1.0	8.91	0.82	99	26	14	3	1	0
38	1152	28.4	1.9	11.20	0.82	116	39	13	3	2	0
39	306	26.8	0.7	4.78	0.71	34	12	3	0	0	0
40	457	22.9	1.6	13.49	0.70	57	18	0	2	0	0
41	1258	41.6	0.2	2.42	0.56	41	12	7	2	0	0
42	590	47.9	0.3	0.60	0.41	14	1	0	0	0	0
43	418	44.5	0.4	0.96	0.55	24	5	1	0	0	0
44	901	43.9	1.2	3.05	0.60	23	9	5	0	0	0
45	181	12.1	1.0	7.60	0.65	24	3	1	0	0	0
46	419	40.8	1.0	5.28	0.78	7	2	1	1	1	1
47	582	29.6	1.6	5.51	0.70	28	11	2	2	0	0
48	396	30.3	0.7	1.74	0.67	22	5	3	0	2	0
49	444	42.1	1.4	8.82	0.84	22	15	6	0	0	0
50	319	18.8	3.4	8.38	0.65	23	6	1	0	0	0
51	1316	33.2	0.5	6.40	0.62	42	12	7	3	0	0
52	436	24.4	1.3	7.66	0.56	16	2	1	0	0	0

Table B24

Dynamics Data for High-Performance CJ5 with 800-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Points in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.3	0.2	0.50	0.44	48	11	2	0	0	0
2	590	42.8	0.3	0.38	0.42	2	0	0	0	0	0
3	416	46.0	0.4	0.54	0.42	6	0	0	0	0	0
4	1037	43.1	0.2	0.96	0.46	28	5	0	0	0	0
5	734	44.7	0.1	0.52	0.47	19	0	0	0	0	0
6	845	43.0	0.2	0.40	0.39	18	0	0	0	0	0
7	725	42.6	0.1	0.74	0.46	15	3	0	0	0	0
8	555	43.0	0.2	0.50	0.38	5	0	0	0	0	0
9	313	31.4	1.3	3.76	0.65	16	4	1	3	0	0
10	472	44.7	0.2	0.65	0.56	29	8	0	0	0	0
11	809	46.0	0.1	0.72	0.38	5	0	0	0	0	0
12	432	23.0	2.3	2.96	0.71	39	18	3	0	0	0
13	557	42.2	0.3	2.27	0.66	36	7	5	0	0	0
14	387	28.1	0.8	2.75	0.66	30	8	2	0	0	0
15	596	18.5	2.6	9.28	0.87	102	51	15	7	2	0
16	1070	28.1	1.0	5.36	0.84	124	47	22	7	6	0
17	617	30.7	0.8	4.84	0.82	66	24	8	8	0	0
18	1486	22.7	2.1	6.44	0.71	151	55	18	3	0	0
19	897	33.6	0.9	5.60	0.78	75	31	6	0	3	0
20	429	29.9	1.0	5.00	0.87	29	17	6	5	1	1
21	568	14.3	1.8	17.20	0.81	110	36	19	6	1	0
22	875	17.8	2.2	14.59	0.80	139	53	22	10	0	3
23	733	23.5	1.0	9.08	0.85	65	29	9	3	3	2
24	460	19.6	2.2	10.60	0.79	85	22	9	4	0	0
25	380	24.7	0.9	6.95	0.78	53	22	8	2	1	0
26	593	22.7	1.9	5.33	0.67	62	16	6	1	1	0
27	815	22.8	1.2	11.12	0.94	121	61	23	4	2	3
28	1171	27.9	0.8	8.66	0.93	134	61	28	12	6	2
29	431	20.4	1.3	17.15	0.83	69	20	6	3	2	0
30	580	23.8	1.4	8.40	0.93	94	36	10	8	4	0
31	550	18.5	2.2	17.24	0.89	76	21	13	6	7	0
32	793	22.3	1.9	8.48	0.86	151	47	17	5	2	0
33	927	19.6	1.1	12.48	1.01	187	117	37	15	9	12
34	513	19.7	1.5	7.40	0.91	87	44	18	3	3	1
35	319	30.2	1.0	1.38	0.70	26	5	1	0	0	0
36	590	23.7	1.4	8.76	0.93	75	47	17	7	3	0
37	723	27.7	1.0	5.52	0.75	77	12	10	1	2	0
38	1152	24.4	1.9	9.29	0.73	121	42	8	5	1	0
39	306	23.4	0.7	4.14	0.64	30	6	2	0	0	0
40	457	24.0	1.6	8.31	-*	-	-	-	-	-	-
41	1258	34.3	0.2	2.80	0.54	48	14	4	1	0	0
42	590	42.8	0.3	0.70	0.42	10	0	0	0	0	0
43	418	38.0	0.4	0.72	0.41	3	0	0	0	0	0
44	901	39.9	1.2	3.34	0.60	34	9	3	0	0	0
45	181	10.1	1.0	5.50	0.55	10	1	0	0	0	0
46	419	36.6	1.0	2.72	0.67	5	1	2	1	0	0
47	582	29.2	1.6	5.40	0.71	283	163	33	2	0	0
48	396	27.0	0.7	1.96	0.72	25	3	6	2	0	1
49	444	32.9	1.4	4.64	0.72	36	9	5	1	0	0
50	319	19.4	3.4	6.36	0.67	27	4	2	0	0	0
51	1316	35.9	0.5	5.02	0.61	51	13	5	2	2	0
52	436	26.1	1.3	8.38	0.67	17	7	3	0	0	0

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table B25

Dynamics Data for High-Performance Scout w[illegible]-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.9	0.2	0.54	0.37	22	4	1	1	1	0
2	590	42.8	0.3	0.38	0.29	0	0	0	0	0	0
3	416	42.5	0.4	0.22	0.31	0	0	0	0	0	0
4	1037	45.3	0.2	0.74	0.32	6	0	0	0	0	0
5	734	45.1	0.1	0.50	0.33	3	0	0	0	0	0
6	845	42.7	0.2	0.44	0.29	3	0	0	0	0	0
7	725	49.4	0.1	0.86	0.31	3	1	0	0	0	0
8	555	48.5	0.2	0.38	0.28	1	0	0	0	0	0
9	313	26.4	1.3	1.38	0.49	5	0	0	0	0	0
10	472	42.4	0.2	0.58	0.36	2	0	0	0	0	0
11	809	46.8	0.1	0.16	0.30	0	0	0	0	0	0
12	432	17.3	2.3	3.54	-*	-	-	-	-	-	-
13	557	39.6	0.3	3.46	0.52	17	2	0	0	0	0
14	387	32.2	0.8	7.88	0.84	27	3	1	2	0	1
15	596	20.1	2.6	14.20	0.93	81	27	4	1	2	2
16	1070	29.7	1.0	10.72	0.83	76	35	14	7	1	1
17	617	32.4	0.8	10.02	0.84	33	15	7	3	2	2
18	1486	26.3	2.1	9.58	0.80	112	39	10	5	4	2
19	897	42.2	0.9	8.56	0.82	56	18	8	2	0	0
20	429	30.5	1.0	7.88	0.89	32	8	5	3	1	0
21	568	15.4	1.8	14.76	0.80	100	30	12	2	1	1
22	875	19.8	2.2	11.52	0.81	107	40	10	7	3	2
23	733	28.4	1.0	8.26	0.81	68	15	9	0	1	0
24	460	24.9	2.2	12.34	0.97	49	23	12	5	4	0
25	380	29.8	0.9	5.58	0.79	46	16	2	0	0	0
26	593	25.9	1.9	12.23	0.89	72	25	11	4	0	1
27	815	24.0	1.2	10.34	0.87	96	51	16	6	3	0
28	1171	33.0	0.8	11.13	0.92	91	31	13	4	3	0
29	431	21.0	1.3	11.48	0.88	54	24	4	2	2	0
30	580	22.2	1.4	10.20	0.83	52	22	11	4	0	0
31	550	18.8	2.2	12.54	0.79	61	15	11	1	2	0
32	793	26.5	1.9	12.53	0.96	82	35	13	9	5	0
33	927	20.3	1.1	11.88	0.89	162	54	24	5	3	0
34	513	22.7	1.5	10.96	0.89	58	32	3	5	1	0
35	319	32.0	1.0	4.00	0.76	21	3	3	1	0	0
36	590	25.1	1.4	15.69	1.02	43	36	9	4	5	0
37	723	31.4	1.0	10.57	0.77	48	16	12	0	3	0
38	1152	29.5	1.9	9.60	0.79	89	24	11	5	3	0
39	306	26.1	0.7	4.92	0.71	34	9	3	0	0	0
40	457	21.3	1.6	4.60	0.66	35	4	1	1	1	0
41	1258	41.1	0.2	2.26	0.59	28	8	4	3	2	0
42	590	41.5	0.3	0.36	0.30	0	0	0	0	0	0
43	418	40.7	0.4	0.94	0.43	3	1	0	0	0	0
44	901	44.5	1.2	3.22	0.62	20	5	1	2	0	0
45	181	13.6	1.0	6.42	0.73	16	7	1	0	0	0
46	419	43.3	1.0	3.42	0.68	17	11	0	1	0	0
47	582	29.2	1.6	5.10	0.63	14	2	1	0	1	0
48	396	30.7	0.7	1.72	0.62	13	2	2	0	0	0
49	444	42.1	1.4	6.75	0.79	26	8	0	1	1	0
50	319	18.4	3.4	8.98	0.62	18	5	0	0	0	0
51	1316	37.1	0.5	3.44	0.60	31	9	0	1	0	0
52	436	27.5	1.3	3.54	0.64	18	2	1	0	0	1

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table B26

Dynamics Data for High-Performance Bronco with 800-lb Payload Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated					
						>1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	40.7	0.2	0.80	0.42	44	10	3	1	0	0
2	590	40.2	0.3	0.44	0.35	0	0	0	0	0	0
3	416	40.7	0.4	0.39	0.34	0	0	0	0	0	0
4	1037	40.4	0.2	1.16	0.40	19	2	0	0	0	0
5	734	41.4	0.1	0.26	-*	-	-	-	-	-	-
6	845	40.6	0.2	1.10	0.50	11	3	1	0	0	0
7	725	41.2	0.1	1.50	0.48	29	2	2	0	0	0
8	555	42.1	0.2	0.48	0.30	0	0	0	0	0	0
9	313	34.4	1.3	10.58	0.86	4	3	2	2	0	0
10	472	44.1	0.2	0.70	0.50	14	2	1	0	0	0
11	809	41.2	0.1	0.26	0.36	5	0	0	0	0	0
12	432	25.8	2.3	9.22	0.81	46	13	5	1	1	0
13	557	39.6	0.3	1.92	0.57	28	2	0	0	0	0
14	387	30.7	0.8	11.90	0.76	31	7	2	0	1	0
15	596	20.8	2.6	14.10	0.85	87	30	13	3	0	0
16	1070	30.4	1.0	15.36	0.81	88	41	5	6	2	2
17	617	31.9	0.8	17.60	0.80	40	16	8	1	0	0
18	1486	26.0	2.1	10.84	0.81	147	53	11	8	3	1
19.	897	39.7	0.9	15.09	0.81	61	20	6	2	1	0
20	429	32.2	1.0	12.44	0.88	32	7	4	2	0	0
21	568	16.1	1.8	29.73	0.86	83	57	16	4	0	0
22	875	20.0	2.2	12.85	0.81	123	52	10	6	0	0
23	733	28.4	1.0	13.28	0.84	73	26	5	6	0	0
24	460	25.7	2.2	16.50	0.94	70	38	13	3	2	0
25	380	30.9	0.9	8.00	0.89	44	21	5	3	0	0
26	593	23.8	1.9	18.35	0.87	77	32	10	1	1	0
27	815	23.0	1.2	24.28	0.89	100	42	18	4	2	1
28	1171	30.4	0.8	19.88	0.95	97	52	30	10	2	1
29	431	22.6	1.3	16.45	0.82	60	24	8	1	0	0
30	580	25.7	1.4	15.72	0.91	79	36	14	3	2	0
31	550	21.4	2.2	25.45	0.91	65	27	17	2	3	0
32	793	27.0	1.9	11.98	0.87	84	41	18	1	0	0
33	927	19.5	1.1	19.08	0.90	145	67	27	7	2	0
34	513	22.3	1.5	13.98	0.88	69	22	10	4	3	0
35	319	29.8	1.0	4.05	0.74	29	3	4	0	0	0
36	590	26.3	1.4	12.57	0.89	74	32	10	4	1	1
37	723	30.8	1.0	13.04	0.83	49	22	13	5	1	1
38	1152	28.1	1.9	9.96	0.76	113	34	9	4	0	0
39	306	25.8	0.7	6.35	0.66	27	4	1	0	0	0
40	457	27.1	1.6	13.26	0.83	46	9	4	4	2	0
41	1258	39.0	0.2	2.16	0.53	36	10	4	2	0	0
42	590	40.2	0.3	0.44	0.33	0	0	0	0	0	0
43	418	40.7	0.4	0.82	0.43	6	0	0	0	0	0
44	901	42.1	1.2	2.32	0.59	26	4	1	0	0	0
45	181	14.2	1.0	7.05	0.72	26	7	0	0	0	0
46	419	39.7	1.0	3.56	0.73	12	2	1	2	1	0
47	582	27.0	1.6	9.20	0.68	16	6	5	1	1	0
48	396	29.7	0.7	3.97	0.65	17	12	1	0	0	0
49	444	40.9	1.4	7.50	0.81	19	11	1	0	0	0
50	319	19.3	3.4	6.80	0.69	26	8	0	0	0	0
51	1316	35.3	0.5	3.15	0.61	44	9	4	1	1	0
52	436	27.0	1.3	12.43	0.78	14	9	3	0	0	0

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table B27

Dynamics Data for Military M151A2 with 800-lb Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.3	0.2	0.94	0.35	24	3	4	0	0	1
2	590	38.7	0.3	0.54	0.28	2	0	0	0	0	0
3	416	40.7	0.4	0.54	0.28	0	0	0	0	0	0
4	1037	42.6	0.2	1.09	0.26	3	0	0	0	0	0
5	734	41.7	0.1	0.92	0.30	0	0	0	0	0	0
6	845	42.4	0.2	0.62	0.24	0	0	0	0	0	0
7	725	46.2	0.1	0.77	0.28	1	0	0	0	0	0
8	555	42.5	0.2	0.36	0.22	0	0	0	0	0	0
9	313	23.2	1.3	4.26	0.50	6	1	0	1	0	0
10	472	36.2	0.2	1.18	0.30	2	0	0	0	0	0
11	809	48.4	0.1	0.41	0.30	0	0	0	0	0	0
12	432	23.8	2.3	6.64	0.56	48	1	0	0	0	0
13	557	31.7	0.3	4.30	0.37	7	0	0	0	0	0
14	387	31.4	0.8	0.54	0.63	21	3	3	0	0	0
15	596	19.9	2.6	14.30	0.63	85	20	5	1	1	0
16	1070	28.1	1.0	13.34	0.75	119	61	11	4	3	2
17	617	31.2	0.8	11.87	0.61	55	10	4	0	0	0
18	1486	26.5	2.1	14.14	0.63	121	39	10	7	2	0
19	897	40.0	0.9	11.18	0.65	49	21	8	2	0	0
20	429	31.8	1.0	10.70	0.69	41	12	2	2	1	0
21	568	15.7	1.8	18.42	0.61	101	16	4	2	1	0
22	875	17.8	2.2	21.36	0.60	97	21	8	2	2	2
23	733	24.3	1.0	19.58	0.63	83	13	3	3	0	2
24	460	23.4	2.2	16.99	0.66	85	13	3	0	0	0
25	380	25.9	0.9	9.70	0.61	35	99	2	1	0	0
26	593	23.8	1.9	6.25	0.55	43	7	1	2	0	0
27	815	22.7	1.2	19.14	0.73	108	28	2	6	1	1
28	1171	29.8	0.8	18.60	0.81	130	50	11	7	3	3
29	431	20.4	1.3	28.25	0.64	63	13	0	1	1	0
30	580	22.2	1.4	22.40	0.68	91	18	3	2	1	0
31	550	17.7	2.2	24.20	0.63	61	17	5	2	1	0
32	793	27.0	1.9	15.95	0.62	92	14	5	0	2	0
33	927	20.1	1.1	13.35	0.75	168	28	10	3	1	3
34	513	20.8	1.5	14.34	0.64	62	13	2	0	1	0
35	319	29.4	1.0	4.00	0.55	12	1	0	0	0	0
36	590	25.3	1.4	14.12	0.69	66	17	3	2	0	0
37	723	26.9	1.0	12.08	0.60	53	16	1	1	0	0
38	1152	27.1	1.9	10.00	0.58	73	9	5	1	0	0
39	306	23.2	0.7	4.00	0.50	10	1	0	0	0	0
40	457	22.3	1.6	9.07	0.55	24	9	0	0	0	0
41	1258	41.9	0.2	2.70	0.42	23	5	0	0	0	0
42	590	42.4	0.3	0.72	0.29	0	0	0	0	0	0
43	418	36.6	0.4	0.90	0.39	2	0	0	0	0	0
44	901	41.8	1.2	6.10	0.48	5	3	0	1	0	0
45	181	12.3	1.0	5.16	0.50	8	0	0	0	0	0
46	419	38.1	1.0	10.26	0.68	10	2	0	0	1	1
47	582	27.2	1.6	8.38	0.54	11	2	1	0	1	0
48	396	27.0	0.7	2.00	0.45	6	0	0	0	0	0
49	444	35.6	1.4	7.46	0.59	15	1	1	0	0	0
50	319	18.4	3.4	5.78	0.50	5	1	0	0	0	0
51	1316	32.9	0.5	3.30	0.39	12	5	0	0	0	0
52	436	25.0	1.3	15.42	0.51	17	5	0	1	0	0

Table B28

Dynamics Data for Standard Ramcharger with Rated Payload Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.3	0.2	0.58	0.37	31	3	1	0	0	0
2	590	41.1	0.3	0.35	0.35	0	0	0	0	0	0
3	416	40.7	0.4	0.46	0.36	4	0	0	0	0	0
4	1037	42.6	0.2	1.02	0.36	7	0	0	0	0	0
5	734	42.4	0.1	0.62	0.34	1	0	0	0	0	0
6	845	40.0	0.2	0.35	0.30	0	0	0	0	0	0
7	725	41.9	0.1	1.07	0.38	8	0	0	0	0	0
8	555	39.4	0.2	1.40	0.46	22	3	1	2	0	0
9	313	25.4	1.3	4.44	0.51	7	3	0	0	1	0
10	472	35.8	0.2	0.49	0.39	7	0	0	0	0	0
11	809	44.5	0.1	0.20	0.35	3	0	0	0	0	0
12	432	21.7	2.3	6.56	0.58	29	3	0	0	1	0
13	557	34.5	0.3	2.23	0.44	6	1	0	0	0	0
14	387	28.4	0.8	9.20	0.68	24	6	1	1	1	0
15	596	16.0	2.6	12.16	0.73	99	22	7	1	1	1
16	1070	26.3	1.0	8.00	0.68	97	22	10	5	3	0
17	617	30.0	0.8	10.57	0.66	48	14	4	1	0	0
18	1486	24.8	2.1	10.57	0.73	117	41	14	6	4	1
19	897	38.7	0.9	7.27	0.67	56	8	8	2	0	0
20	429	34.0	1.0	7.04	0.83	48	19	3	2	1	0
21	568	14.7	1.8	19.12	0.83	88	30	13	9	2	0
22	875	18.2	2.2	18.06	0.73	107	32	10	4	2	1
23	733	24.3	1.0	15.04	0.81	78	22	6	7	0	1
24	460	20.1	2.2	20.40	0.79	59	15	13	6	0	0
25	380	24.9	0.9	8.57	0.64	29	5	3	0	0	0
26	593	21.5	1.9	7.66	0.66	53	16	4	0	0	0
27	815	22.3	1.2	17.52	0.82	109	39	12	8	3	0
28	1171	27.0	0.8	12.16	0.79	102	43	14	11	3	0
29	431	20.0	1.3	13.01	0.81	197	19	9	2	0	0
30	580	23.2	1.4	15.47	0.85	92	39	10	5	1	0
31	550	18.8	2.2	19.66	0.84	73	30	19	0	2	1
32	793	22.7	1.9	14.49	0.76	124	40	10	7	1	0
33	927	19.4	1.1	17.85	0.82	159	37	19	12	3	0
34	513	16.5	1.5	12.26	0.75	55	23	11	3	0	0
35	319	32.5	1.0	6.64	0.70	29	4	3	1	0	0
36	590	24.8	1.4	10.72	0.91	77	38	12	10	4	0
37	723	29.4	1.0	10.67	0.83	79	41	13	2	5	1
38	1152	26.5	1.9	12.08	0.75	118	49	7	2	2	2
39	306	20.9	0.7	6.38	0.64	36	6	1	0	0	0
40	457	16.1	1.6	10.24	0.67	33	12	6	1	0	2
41	1258	41.0	0.2	2.13	0.49	29	9	5	0	0	0
42	590	41.1	0.3	0.44	0.37	0	0	0	0	0	0
43	418	40.7	0.4	0.70	0.39	1	0	0	0	0	0
44	901	37.9	1.2	2.70	0.48	26	1	0	0	0	0
45	181	10.8	1.0	5.69	0.56	11	2	0	0	0	0
46	419	37.6	1.0	4.20	0.69	9	4	0	1	1	0
47	582	27.8	1.6	3.90	0.59	14	7	1	0	0	0
48	396	27.6	0.7	1.60	0.55	6	9	1	0	0	0
49	444	37.4	1.4	7.55	0.73	34	9	1	2	0	0
50	319	16.5	3.4	10.99	0.63	11	3	4	1	1	0
51	1316	33.7	0.5	4.28	0.47	23	4	2	0	1	0
52	436	24.4	1.3	8.42	0.70	15	6	2	1	0	0

Table B29

Dynamics Data for Standard Blazer with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.0	0.2	0.57	0.42	38	10	10	3	1	0
2	390	40.2	0.3	0.43	0.32	0	0	0	0	0	0
3	416	43.2	0.4	0.59	0.40	5	0	0	0	0	0
4	1037	40.6	0.2	1.40	0.44	19	12	1	1	0	0
5	734	41.0	0.1	0.44	0.43	19	3	0	0	0	0
6	845	40.6	0.2	0.58	0.39	9	2	3	2	0	0
7	725	40.9	0.1	0.88	0.45	31	7	0	0	0	0
8	555	47.3	0.2	0.92	0.51	14	2	3	3	1	0
9	313	26.0	1.3	1.42	0.52	8	1	1	0	0	0
10	472	37.4	0.2	0.48	0.39	8	0	0	0	0	0
11	809	41.5	0.1	0.26	0.40	6	3	0	0	0	0
12	432	19.1	2.3	4.23	0.59	29	6	1	0	0	0
13	557	34.5	0.3	1.60	0.47	17	3	1	0	0	0
14	387	29.3	0.8	4.74	0.70	15	6	2	1	0	0
15	596	17.4	2.6	11.32	0.77	88	33	12	5	2	0
16	1070	25.0	1.0	6.60	0.68	103	33	8	2	3	0
17	617	31.2	0.8	6.22	0.77	51	14	7	2	3	0
18	1486	24.6	2.1	6.10	0.71	153	47	8	7	1	0
19	897	38.7	0.9	5.75	0.84	82	29	5	5	7	0
20	429	34.8	1.0	5.17	0.89	45	21	8	1	2	1
21	568	14.1	1.8	17.66	0.75	93	25	13	5	1	0
22	875	19.4	2.2	12.50	0.76	154	39	15	5	5	0
23	733	28.1	1.0	14.08	0.91	72	45	16	7	3	0
24	460	22.1	2.2	15.20	0.96	54	37	15	7	2	3
25	380	28.8	0.9	5.82	0.85	42	17	4	4	1	3
26	593	24.1	1.9	6.58	0.74	43	14	4	0	0	3
27	815	22.4	1.2	16.12	0.84	87	34	8	7	4	3
28	1171	27.2	0.8	11.53	0.87	123	57	24	4	5	1
29	431	21.2	1.3	12.00	0.73	34	16	7	1	2	0
30	580	22.0	1.4	13.82	0.83	82	41	8	0	2	0
31	550	18.8	2.2	14.00	0.75	45	17	8	4	1	1
32	793	24.4	1.9	10.60	0.69	95	20	9	2	0	0
33	927	19.9	1.1	15.42	0.83	129	42	10	7	4	3
34	513	20.3	1.5	9.08	0.72	73	25	3	1	0	0
35	319	27.2	1.0	4.08	0.68	15	6	1	2	0	0
36	590	22.4	1.4	8.23	0.81	66	24	11	3	3	0
37	723	29.4	1.0	7.28	0.69	43	8	5	1	3	1
38	1152	25.5	1.9	7.50	0.71	78	19	8	3	3	0
39	306	22.2	0.7	4.90	0.61	28	13	0	1	0	0
40	457	19.5	1.6	13.74	0.63	23	5	3	1	1	0
41	1258	39.4	0.2	1.90	0.47	33	9	1	1	0	0
42	590	43.7	0.3	0.44	0.32	0	0	0	0	0	0
43	418	43.9	0.4	0.68	0.39	1	0	0	0	0	0
44	901	38.9	1.2	2.40	0.49	8	3	1	0	0	0
45	181	12.3	1.0	3.94	0.52	15	0	0	0	0	0
46	419	35.7	1.0	4.24	0.54	3	4	0	0	0	0
47	582	28.4	1.6	3.70	0.58	14	9	1	0	0	0
48	396	25.5	0.7	1.06	0.50	7	4	1	0	0	0
49	444	38.8	1.4	4.20	0.58	16	4	1	0	0	0
50	319	16.5	3.4	4.34	0.57	17	2	2	0	0	0
51	1316	30.7	0.5	3.64	0.45	22	1	1	0	0	0
52	436	22.9	1.3	4.35	0.54	13	0	1	0	0	0

Table B30

Dynamics Data for Standard CJ5 with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.6	0.2	0.43	0.38	23	3	0	0	0	0
2	590	41.9	0.3	0.27	0.32	2	0	0	0	0	0
3	416	47.5	0.4	0.47	0.39	4	1	0	0	0	0
4	1037	42.6	0.2	0.64	0.43	15	4	2	0	0	0
5	734	43.9	0.1	0.44	0.44	6	1	0	0	0	0
6	845	42.4	0.2	0.50	0.34	7	0	0	0	0	0
7	725	43.0	0.1	0.69	0.38	8	1	0	0	0	0
8	555	41.1	0.2	0.79	0.50	12	2	0	0	0	0
9	313	23.2	1.3	4.18	0.42	5	0	0	0	0	0
10	472	40.2	0.2	0.39	0.38	7	0	0	0	0	0
11	809	44.3	0.1	0.43	0.36	0	0	0	0	0	0
12	432	18.9	2.3	5.88	0.53	22	2	0	0	1	0
13	557	36.5	0.3	1.42	0.45	11	0	0	0	0	0
14	387	25.4	0.8	2.35	0.51	18	4	0	0	0	0
15	596	15.9	2.6	8.72	0.66	58	13	4	2	0	0
16	1070	24.0	1.0	5.87	0.63	76	34	10	1	2	0
17	617	26.6	0.8	7.62	0.64	38	7	3	0	0	0
18	1486	21.4	2.1	6.96	0.59	80	18	6	1	1	0
19	897	34.1	0.9	3.99	0.57	37	10	0	0	0	0
20	429	24.0	1.0	5.44	0.67	37	7	2	1	1	0
21	568	13.3	1.8	15.96	0.68	78	13	5	2	0	0
22	875	15.3	2.2	14.13	0.61	82	17	5	0	1	2
23	733	22.5	1.0	11.74	0.69	54	14	3	1	2	0
24	460	17.4	2.2	9.28	0.65	50	6	0	0	0	0
25	380	20.9	0.9	6.10	0.62	42	6	3	0	0	0
26	593	20.8	1.9	12.00	0.71	59	12	3	2	1	0
27	815	29.3	1.2	10.30	0.67	85	20	4	2	0	0
28	1171	24.3	0.8	8.88	0.65	92	20	5	2	2	0
29	431	17.3	1.3	11.34	0.65	42	12	1	0	0	0
30	580	20.1	1.4	12.49	0.73	69	18	3	2	2	0
31	550	16.2	2.2	13.88	0.67	35	11	4	3	0	0
32	793	25.2	1.9	11.69	0.68	78	17	5	2	1	0
33	927	17.7	1.1	11.49	0.68	135	20	9	1	1	0
34	513	15.2	1.5	10.45	0.66	54	5	4	1	0	0
35	319	32.5	1.0	1.86	0.59	9	2	0	0	0	0
36	590	21.0	1.4	11.54	0.72	66	17	7	0	0	0
37	723	26.0	1.0	9.14	0.65	38	7	1	2	3	0
38	1152	25.1	1.9	7.31	0.59	48	12	3	0	0	1
39	306	23.2	0.7	3.50	0.52	15	0	0	0	0	0
40	457	21.5	1.6	8.20	0.58	25	8	2	1	0	0
41	1258	39.0	0.2	0.93	0.45	19	6	0	0	0	0
42	590	43.7	0.3	0.34	0.35	0	0	0	0	0	0
43	418	36.0	0.4	0.58	0.39	0	0	0	0	0	0
44	901	32.3	1.2	1.94	0.43	4	2	0	0	0	0
45	181	11.8	1.0	4.82	0.59	8	1	1	0	0	0
46	419	35.3	1.0	1.48	0.50	2	0	0	0	0	0
47	582	26.1	1.6	4.00	0.55	16	1	0	0	0	0
48	396	24.6	0.7	1.21	0.48	6	0	0	0	0	0
49	444	34.4	1.4	3.55	0.56	12	2	0	0	0	0
50	319	17.7	3.4	6.64	0.59	10	2	1	0	0	0
51	1316	35.2	0.5	5.80	0.49	15	5	1	0	2	0
52	436	24.8	1.3	10.34	0.59	6	3	2	0	0	0

Table B31

Dynamics Data for Standard Scout with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	42.8	0.2	0.42	0.36	19	11	2	0	1	0
2	590	42.4	0.3	0.27	0.36	1	0	0	0	0	0
3	416	46.0	0.4	0.42	0.33	0	0	0	0	0	0
4	1037	43.9	0.2	0.36	0.31	0	0	0	0	0	0
5	734	43.2	0.1	0.26	0.30	0	0	0	0	0	0
6	845	43.7	0.2	0.32	0.31	2	0	0	0	0	0
7	725	43.4	0.1	1.12	0.29	1	0	0	0	0	0
8	555	41.1	0.2		—*	—	—	—	—	—	—
9	313	26.7	1.3	4.84	0.53	12	2	0	2	1	0
10	472	35.8	0.2	0.36	0.33	0	0	0	0	0	0
11	809	43.8	0.1	0.13	0.31	1	1	0	0	0	0
12	432	14.4	2.3	2.56	0.54	15	3	2	0	1	1
13	557	31.1	0.3	1.88	0.42	7	7	0	0	0	0
14	387	30.0	0.8	5.02	0.66	16	6	1	2	0	1
15	596	27.8	2.6	11.56	0.82	61	27	10	5	3	1
16	1070	25.3	1.0	7.48	0.72	111	33	17	8	3	1
17	617	27.7	0.8	5.75	0.60	55	13	4	3	0	0
18	1486	22.5	2.1	4.14	0.61	133	43	19	6	1	0
19	897	31.2	0.9	2.67	0.56	60	13	7	1	2	0
20	429	28.7	1.0	3.40	0.69	36	17	4	1	3	1
21	568	14.6	1.8	11.51	0.72	79	26	12	4	4	1
22	875	16.9	2.2	9.94	0.71	121	41	20	15	6	0
23	733	24.2	1.0	5.63	0.69	79	19	9	6	4	0
24	460	20.6	2.2	7.45	0.74	63	16	11	6	1	1
25	380	23.1	0.9	3.84	0.62	32	12	0	3	0	1
26	593	20.8	1.9	5.29	0.62	56	16	6	5	1	0
27	815	19.4	1.2	5.97	0.66	116	21	16	7	3	0
28	1171	26.0	0.8	4.32	0.71	130	42	19	7	3	0
29	431	17.9	1.3	8.46	0.71	46	13	15	1	2	0
30	580	20.8	1.4	6.85	0.70	76	26	6	4	1	0
31	550	16.7	2.2	10.16	0.74	85	22	9	5	5	0
32	793	22.2	1.9	6.06	0.65	93	22	11	5	2	0
33	927	16.3	1.1	9.74	0.77	156	45	9	9	1	1
34	513	19.2	1.5	5.84	0.74	72	23	6	7	2	0
35	319	28.6	1.0	2.68	0.61	14	3	0	1	0	0
36	590	23.7	1.4	6.66	0.79	84	28	16	7	3	1
37	723	24.7	1.0	4.80	0.62	62	11	3	5	2	1
38	1152	26.5	1.9	5.77	0.63	84	20	7	4	2	0
39	306	23.7	0.7	2.94	0.59	17	4	4	0	0	0
40	457	14.8	1.6	3.23	0.54	31	3	1	1	2	0
41	1258	40.5	0.2	0.94	0.48	23	3	1	0	1	1
42	590	44.7	0.3	0.30	0.36	0	0	0	0	0	0
43	418	41.9	0.4	0.66	0.41	7	2	0	2	0	0
44	901	38.2	1.2	1.79	0.46	9	5	5	0	0	0
45	181	10.1	1.0	3.36	0.56	16	2	1	0	0	0
46	419	36.6	1.0	1.16	0.52	12	4	0	1	0	0
47	582	26.5	1.6	6.44	0.68	31	8	4	4	2	0
48	396	30.7	0.7	1.08	0.55	18	4	4	0	1	0
49	444	31.2	1.4	3.10	0.64	25	10	3	1	0	0
50	319	12.5	3.4	2.06	0.49	13	0	2	1	0	0
51	1316	31.4	0.5	1.94	0.47	19	4	4	1	0	0
52	436	25.6	1.3	10.34	0.80	14	13	6	3	3	2

* Dashes indicate that no data were collected as a result of instrumentation failures.

Table B32

Dynamics Data for High Performance Ramcharger with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	44.0	0.2	0.51	0.41	30	11	1	2	0	1
2	590	43.3	0.3	0.43	0.38	1	0	0	0	0	0
3	416	43.2	0.4	0.50	0.44	4	0	0	0	0	0
4	1037	50.2	0.2	1.23	0.42	26	4	1	0	0	0
5	734	45.5	0.1	0.57	0.39	6	0	0	0	0	0
6	845	48.0	0.2	0.34	0.33	2	0	0	0	0	0
7	725	45.0	0.1	1.02	0.39	9	1	0	0	0	0
8	555	47.3	0.2	0.35	0.35	2	0	0	0	0	0
9	313	23.7	1.3	2.93	0.76	6	2	4	2	1	2
10	472	39.7	0.2	0.69	0.39	1	0	0	0	0	0
11	809	44.5	0.1	0.24	0.37	0	0	1	0	0	0
12	432	21.7	2.3	8.60	0.59	28	4	0	0	1	0
13	557	38.8	0.3	3.34	0.50	16	4	1	0	0	0
14	387	32.6	0.8	5.49	0.68	20	3	0	1	1	0
15	596	17.5	2.6	16.32	0.87	80	29	16	3	5	3
16	1070	28.3	1.0	9.63	0.75	101	46	15	5	8	2
17	617	30.9	0.8	7.54	0.66	43	22	5	3	0	0
18	1486	25.7	2.1	9.88	0.80	172	61	17	6	6	4
19	897	43.1	0.9	10.89	0.82	79	28	8	8	5	0
20	429	33.2	1.0	8.26	0.89	39	19	6	1	3	0
21	568	15.0	1.8	17.62	0.81	79	30	10	6	4	1
22	875	20.6	2.2	20.10	0.85	110	37	26	8	4	2
23	733	28.4	1.0	17.97	0.85	113	53	13	5	1	3
24	460	24.9	2.2	21.39	0.89	92	37	20	11	1	0
25	380	24.0	0.9	11.26	0.72	50	18	3	0	1	1
26	593	27.0	1.9	7.58	0.80	57	20	6	2	2	4
27	815	23.6	1.2	19.46	0.88	203	76	1	5	5	3
28	1171	30.6	0.8	9.60	0.82	116	44	21	9	3	2
29	431	20.7	1.3	19.95	0.93	52	22	15	3	5	2
30	580	25.5	1.4	15.48	0.80	237	32	4	2	0	0
31	550	17.5	2.2	17.35	0.79	73	24	6	3	3	1
32	793	25.8	1.9	15.05	0.86	110	36	21	11	6	3
33	927	20.0	1.1	15.28	0.86	164	62	18	11	4	1
34	513	18.6	1.5	11.32	0.80	72	17	9	6	3	0
35	319	29.4	1.0	3.28	0.63	15	5	2	0	0	0
36	590	27.2	1.4	10.64	0.82	82	28	5	5	1	1
37	723	31.6	1.0	10.22	0.83	111	26	8	6	1	1
38	1152	30.3	1.9	12.68	0.78	114	43	12	3	2	3
39	306	24.8	0.7	5.72	0.70	22	9	1	0	0	0
40	457	21.8	1.6	11.38	0.69	34	7	4	1	1	0
41	1258	42.1	0.2	1.84	0.54	38	9	3	1	0	3
42	590	44.2	0.3	0.56	0.38	1	0	0	0	0	0
43	418	46.0	0.4	0.68	0.50	2	1	0	0	0	0
44	901	43.0	1.2	3.59	0.61	27	3	1	2	0	2
45	181	13.7	1.0	4.86	0.69	17	3	2	2	0	0
46	419	41.4	1.0	2.62	0.70	15	3	1	1	0	0
47	582	28.8	1.6	9.67	0.73	11	9	4	3	2	0
48	396	29.7	0.7	1.18	0.59	16	5	0	0	0	0
49	444	40.9	1.4	4.80	0.70	31	6	3	0	0	0
50	319	18.9	3.4	6.14	0.58	16	1	1	0	0	0
51	1316	37.1	0.5	4.60	0.54	39	11	4	1	0	0
52	436	26.1	1.3	14.56	0.72	20	6	4	1	0	0

Table B33

Dynamics Data for High Performance Blazer with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	46.0	0.2	0.68	0.41	30	8	2	1	1	0
2	590	49.1	0.3	0.58	0.33	0	0	0	0	0	0
3	416	52.8	0.4	0.62	0.34	0	0	0	0	0	0
4	1037	49.1	0.2	1.60	0.36	14	1	0	0	0	0
5	734	47.2	0.1	0.68	0.41	12	0	0	0	0	0
6	845	47.2	0.2	0.80	0.31	4	3	1	0	0	0
7	725	49.0	0.1	1.00	0.40	9	2	0	0	0	0
8	555	49.8	0.2	0.74	0.39	9	4	1	0	0	0
9	313	26.0	1.3	3.00	0.62	7	2	0	1	2	0
10	472	36.6	0.2	0.58	0.39	4	0	0	0	0	0
11	809	47.6	0.1	0.26	0.31	0	0	0	0	0	0
12	432	22.3	2.3	5.34	0.57	19	3	0	0	0	0
13	557	34.5	0.3	2.52	0.43	3	2	0	0	0	0
14	387	30.7	0.8	10.10	0.79	12	5	1	3	0	0
15	596	16.9	2.6	13.88	0.71	74	19	7	2	0	0
16	1070	28.7	1.0	9.22	0.74	72	26	11	8	1	2
17	617	33.9	0.8	9.18	0.72	46	9	5	2	2	1
18	1486	27.2	2.1	11.06	0.73	116	40	9	6	2	0
19	897	40.8	0.9	7.44	0.74	39	15	11	3	0	1
20	429	37.5	1.0	7.60	0.73	41	16	1	0	0	0
21	568	18.3	1.8	25.70	1.00	80	32	16	5	7	5
22	875	20.4	2.2	24.90	0.91	120	41	21	7	6	4
23	733	29.1	1.0	21.75	0.97	78	36	14	7	4	5
24	460	24.5	2.2	20.80	0.87	74	39	7	3	2	1
25	380	30.5	0.9	7.38	0.70	45	9	4	0	0	1
26	593	24.7	1.9	9.80	0.80	34	17	12	2	3	1
27	315	24.2	1.2	18.74	0.82	82	43	13	2	1	1
28	1171	31.7	0.8	13.79	0.94	117	44	22	7	1	1
29	431	22.1	1.3	22.54	0.90	52	27	15	2	2	2
30	580	24.7	1.4	17.64	0.87	86	45	7	3	2	1
31	550	19.1	2.2	25.05	0.85	68	26	12	5	2	1
32	793	25.0	1.9	15.97	0.79	97	45	11	2	0	0
33	927	20.5	1.1	23.05	0.93	150	46	23	7	3	5
34	513	22.7	1.5	13.14	0.81	64	18	7	3	2	0
35	319	31.1	1.0	5.48	0.75	27	6	1	1	1	0
36	590	25.1	1.4	17.85	0.90	69	27	14	3	1	1
37	723	30.4	1.0	8.84	0.74	46	16	5	1	2	0
38	1152	29.4	1.9	14.11	0.71	65	23	8	2	0	0
39	306	23.2	0.7	5.05	0.62	25	4	1	0	1	0
40	457	22.6	1.6	12.30	0.60	25	5	3	0	1	0
41	1258	41.6	0.2	1.82	0.49	24	6	5	0	1	1
42	590	47.3	0.3	0.44	0.35	0	0	0	0	0	0
43	418	47.5	0.4	0.74	0.41	1	2	0	0	0	0
44	901	43.9	1.2	3.00	0.57	10	5	2	0	0	0
45	181	12.1	1.0	7.74	0.57	12	0	0	0	0	0
46	419	39.7	1.0	5.72	0.69	4	5	2	0	1	0
47	582	29.6	1.6	8.14	0.68	19	7	2	1	2	0
48	396	27.8	0.7	1.85	0.61	14	4	2	0	0	0
49	444	40.9	1.4	5.96	0.77	21	8	1	0	1	0
50	319	19.3	3.4	5.88	0.61	12	4	0	1	1	0
51	1316	33.0	0.5	83	0.53	24	4	4	2	0	0
52	436	27.0	1.3	51	0.60	12	2	2	0	0	0

Table B34

Dynamics Data for High Performance CJ5 with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.6	0.2	0.78	0.42	44	7	4	2	1	0
2	590	41.1	0.3	0.46	0.36	0	0	0	0	0	0
3	416	43.9	0.4	0.78	0.41	7	0	0	0	0	0
4	1037	43.9	0.2	0.72	0.38	8	0	0	0	0	0
5	734	42.1	0.1	0.60	0.41	12	0	0	0	0	0
6	845	40.6	0.2	0.51	0.35	5	0	0	0	0	0
7	725	43.0	0.1	0.88	0.43	21	1	0	0	0	0
8	555	43.5	0.2	0.48	0.33	0	0	0	0	0	0
9	313	27.7	1.3	1.86	0.53	11	2	0	0	0	0
10	472	39.7	0.2	0.80	0.42	7	1	0	0	0	0
11	809	43.8	0.1	0.52	0.41	10	0	0	0	0	0
12	432	21.8	2.3	3.42	0.63	49	7	2	0	0	0
13	557	39.2	0.3	2.86	0.68	39	8	4	2	1	0
14	387	31.1	0.8	3.08	0.67	20	8	0	3	1	0
15	596	21.7	2.6	11.74	1.01	81	38	15	7	6	3
16	1070	32.7	1.0	9.50	0.94	207	43	21	9	11	3
17	617	33.1	0.8	7.38	0.80	49	12	8	2	3	0
18	1486	25.5	2.1	8.20	0.80	129	50	14	5	4	5
19	897	36.4	0.9	7.32	0.90	72	32	4	4	5	3
20	429	29.6	1.0	7.06	0.91	34	12	2	2	4	1
21	568	15.6	1.8	17.56	0.85	111	33	13	9	5	0
22	875	20.0	2.2	11.70	0.82	134	51	26	6	4	1
23	733	26.2	1.0	10.16	0.89	66	37	10	4	4	1
24	460	23.2	2.2	10.88	0.94	69	32	9	5	5	0
25	380	25.2	0.9	4.92	0.72	47	15	3	1	1	0
26	593	23.8	1.9	14.00	1.01	63	30	17	5	5	2
27	815	22.2	1.2	10.82	0.95	105	39	24	11	9	3
28	1171	29.6	0.8	11.00	0.99	107	65	15	12	7	7
29	431	20.0	1.3	10.30	0.95	60	19	18	8	5	0
30	580	23.3	1.4	10.18	0.99	80	37	8	7	4	3
31	550	22.1	2.2	11.96	0.88	69	38	14	6	4	2
32	793	26.1	1.9	11.53	0.97	107	54	15	5	9	4
33	927	18.9	1.1	12.80	1.01	177	90	41	21	4	5
34	513	20.2	1.5	10.34	0.89	92	29	14	5	1	0
35	319	29.0	1.0	2.28	0.93	25	8	2	0	0	0
36	590	22.0	1.4	9.26	1.08	64	37	11	4	5	3
37	723	27.4	1.0	6.00	0.93	25	4	5	3	1	0
38	1152	25.6	1.9	9.30	0.69	101	21	7	1	2	0
39	306	20.9	0.7	3.54	0.62	30	2	0	0	1	0
40	457	19.1	1.6	11.10	0.73	26	7	3	3	1	1
41	1258	38.6	0.2	1.38	0.55	35	9	4	0	0	0
42	590	44.2	0.3	0.44	0.35	0	0	0	0	0	0
43	418	40.7	0.4	0.72	0.44	4	1	0	0	0	0
44	901	40.2	1.2	3.02	0.80	12	1	3	2	0	0
45	181	14.9	1.0	4.84	0.91	18	5	4	0	0	0
46	419	39.1	1.0	3.10	0.93	6	1	2	1	0	0
47	582	30.8	1.6	9.37	0.94	94	6	5	1	3	0
48	396	29.4	0.7	1.72	0.59	12	4	1	0	0	0
49	444	37.9	1.4	4.82	0.84	21	12	0	0	1	0
50	[illegible]	21.5	3.4	7.40	0.91	12	3	3	0	0	0
51	[illegible]	36.0	0.5	4.40	0.78	30	11	6	2	0	0
52	436	28.3	1.3	10.26	0.88	12	5	6	3	1	0

Table B35

Dynamics Data for High Performance Scout with Rated Payload
Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	rms Elevation in	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	45.0	0.2	0.46	0.40	57	13	2	0	0	0
2	590	46.3	0.3	0.38	0.35	0	0	0	0	0	0
3	416	43.2	0.4	0.44	0.36	3	0	0	0	0	0
4	1037	42.6	0.2	0.72	0.36	15	0	0	0	0	0
5	734	43.2	0.1	0.28	0.43	22	0	0	0	0	0
6	845	44.3	0.2	0.38	0.35	11	0	0	0	0	0
7	725	45.0	0.1	0.60	0.37	12	0	0	0	0	0
8	555	47.3	0.2	0.24	0.27	0	0	0	0	0	0
9	313	25.4	1.3	1.42	0.55	16	5	1	2	0	0
10	472	40.2	0.2	0.56	0.53	48	7	0	0	0	0
11	809	52.1	0.1	0.16	0.38	5	0	0	0	0	0
12	432	19.1	2.3	4.00	0.65	70	12	6	1	0	0
13	557	37.2	0.3	2.42	0.45	13	1	0	0	0	0
14	387	31.4	0.8	4.82	0.75	40	7	7	3	3	0
15	596	20.5	2.6	10.32	0.82	104	37	14	5	3	1
16	1070	31.9	1.0	7.71	0.78	133	45	15	9	4	2
17	617	31.6	0.8	11.34	0.75	74	23	12	2	1	1
18	1486	27.4	2.1	7.10	0.73	205	47	11	6	4	1
19	897	38.7	0.9	11.37	0.77	94	18	17	3	2	1
20	429	31.1	1.0	5.24	0.76	40	12	7	3	1	0
21	568	14.3	1.8	16.62	0.85	121	57	17	3	5	2
22	875	19.4	2.2	9.58	0.77	158	48	16	7	3	0
23	733	27.5	1.0	8.96	0.82	98	36	12	8	3	0
24	460	17.2	2.2	11.40	0.81	94	34	7	4	2	0
25	380	28.8	0.9	7.60	0.83	62	16	8	2	3	0
26	593	24.4	1.9	10.48	0.77	103	25	5	2	5	0
27	815	21.3	1.2	9.72	0.81	137	51	12	7	4	0
28	1171	31.7	0.8	8.38	0.79	133	52	17	10	2	1
29	431	21.0	1.3	12.88	0.76	68	25	3	4	1	1
30	580	22.0	1.4	14.68	0.82	125	44	11	5	2	0
31	550	18.5	2.2	16.74	0.81	82	27	11	7	3	1
32	793	25.8	1.9	12.42	0.82	111	42	21	5	0	2
33	927	20.1	1.1	12.68	0.91	184	59	20	10	7	3
34	513	21.9	1.5	13.64	0.81	78	34	8	4	2	0
35	319	30.2	1.0	2.82	0.63	21	4	0	0	0	0
36	590	25.8	1.4	10.32	0.83	101	34	10	2	1	0
37	723	30.8	1.0	7.34	0.72	72	22	7	4	0	0
38	1152	30.0	1.9	8.65	0.71	120	26	6	3	3	0
39	306	25.8	0.7	3.69	0.77	38	9	4	3	1	0
40	457	19.5	1.6	4.48	0.62	46	12	4	0	0	0
41	1258	41.2	0.2	1.35	0.47	15	2	2	0	1	0
42	590	44.7	0.3	0.34	0.33	2	0	0	0	0	0
43	418	40.7	0.4	0.58	0.41	2	2	0	0	0	0
44	901	42.7	1.2	2.60	0.55	19	4	1	2	1	0
45	181	12.3	1.0	8.20	0.61	11	6	1	1	0	0
46	419	37.1	1.0	3.34	0.69	12	4	2	0	1	1
47	582	29.6	1.6	10.44	0.71	25	7	6	3	2	0
48	396	28.1	0.7	1.83	0.57	22	2	0	0	0	0
49	444	40.4	1.4	6.11	0.74	23	15	2	0	0	0
50	319	18.1	3.4	6.52	0.57	16	2	1	0	0	0
51	1316	34.9	0.5	2.92	0.48	24	4	1	0	0	0
52	436	26.1	1.3	6.17	0.64	14	10	3	0	1	0

Table B36

Dynamics Data for High-Performance Bronco with Rated Payload

Over Traverse Test Course

Terrain Unit	Distance ft	Speed mph	RMS Elevation in.	Absorbed Power watts	Cargo rms g	No. of Acceleration Peaks in Between Range Indicated >1-1.5	>1.5-2	>2-2.5	>2.5-3	>3-4	>4
1	4055	41.6	0.2	0.72	0.40	43	3	2	1	1	0
2	590	41.5	0.3	0.62	0.74	2	0	0	0	0	0
3	416	45.3	0.4	0.46	0.38	2	0	0	0	0	0
4	1037	44.2	0.2	1.44	0.39	24	4	0	1	0	0
5	734	41.7	0.1	0.80	0.45	27	0	0	0	0	0
6	845	42.7	0.2	0.48	0.35	8	0	0	0	0	0
7	725	44.1	0.1	1.00	0.42	24	2	0	0	0	0
8	555	45.6	0.2	0.44	0.29	3	0	0	0	0	0
9	313	30.5	1.3	10.64	0.77	7	5	5	2	3	0
10	472	46.7	0.2	0.66	0.52	21	6	0	0	0	0
11	809	42.4	0.1	0.36	0.38	1	0	0	0	0	0
12	432	23.6	2.3	4.16	0.67	52	7	1	0	0	0
13	557	38.0	0.3	2.30	0.55	33	5	2	1	0	0
14	387	31.8	0.8	8.64	0.68	23	7	5	1	0	0
15	596	20.1	2.6	9.36	0.82	112	37	11	0	2	0
16	1070	29.7	1.0	8.88	0.73	138	39	18	8	1	0
17	617	33.1	0.8	8.40	0.78	53	34	9	3	1	0
18	1486	27.3	2.1	8.94	0.79	187	66	25	6	0	0
19	897	36.9	0.9	13.92	0.79	94	21	18	4	2	0
20	429	31.1	1.0	9.32	0.77	55	19	4	1	0	0
21	568	14.3	1.8	16.31	0.81	128	41	20	3	1	0
22	875	19.9	2.2	12.97	0.84	173	48	23	11	3	0
23	733	26.9	1.0	9.52	0.84	91	53	9	2	1	0
24	460	23.6	2.2	10.50	0.83	91	39	15	1	0	0
25	380	27.3	0.9	5.30	0.86	55	19	3	2	2	0
26	593	25.3	1.9	11.48	0.81	105	33	12	5	0	0
27	815	22.6	1.2	15.76	0.81	126	33	17	7	2	1
28	1171	27.9	0.8	11.18	0.77	162	38	19	3	0	0
29	431	24.5	1.3	19.09	0.94	68	35	16	2	6	0
30	580	25.4	1.4	11.19	0.82	88	36	7	3	1	0
31	550	18.4	2.2	11.81	0.80	74	28	8	0	3	0
32	793	23.5	1.9	9.37	0.75	103	40	14	0	0	0
33	927	18.0	1.1	11.34	0.81	184	60	16	6	4	0
34	513	21.0	1.5	10.98	0.82	91	31	4	2	2	0
35	319	31.1	1.0	3.94	0.70	18	5	1	0	0	0
36	590	24.7	1.4	9.22	0.75	84	31	5	3	0	0
37	723	28.2	1.0	7.52	0.69	73	21	5	0	0	0
38	1152	29.1	1.9	9.63	0.74	96	28	11	3	2	0
39	306	27.8	0.7	3.20	0.61	30	1	0	0	0	0
40	457	26.0	1.6	8.46	0.67	37	5	5	0	0	0
41	1258	39.0	0.2	1.74	0.49	24	7	1	0	0	0
42	590	39.1	0.3	0.30	0.32	0	0	0	0	0	0
43	418	39.1	0.4	0.56	0.43	3	0	0	0	0	0
44	901	39.9	1.2	1.86	0.58	43	2	0	1	0	0
45	181	12.6	1.0	3.96	0.64	18	2	0	0	0	0
46	419	38.1	1.0	1.52	0.53	8	1	0	0	0	0
47	582	25.6	1.6	3.08	0.59	21	3	4	1	0	0
48	396	28.1	0.7	1.62	0.61	21	2	1	0	1	0
49	444	35.2	1.4	4.42	0.71	35	10	1	0	0	0
50	319	18.9	3.4	4.42	0.64	27	2	0	1	0	0
51	1316	36.6	0.5	2.10	0.55	41	9	1	0	1	0
52	436	27.5	1.3	8.54	0.76	12	4	5	3	2	0

In accordance with ER 70-2-3, paragraph 6c(1)(b), dated 15 February 1973, a facsimile catalog card in Library of Congress format is reproduced below.

Randolph, Donald D

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1 v. (various pagings) illus. 27 cm. (U. S. Waterways Experiment Station. Miscellaneous paper M-76-6)

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